

CLINICAL MEDICINE

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Volume 49

1942

Published by

THE AMERICAN JOURNAL OF CLINICAL MEDICINE

WAUKEGAN, ILLINOIS

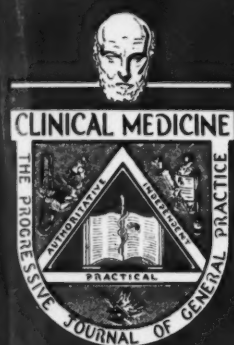
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CLINICAL MEDICINE

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VOLUME 49

NUMBER 1

JANUARY
1942



"Splash . . . Eve with the lid on!"



"Splash" and "Eve with the lid on"—a bowl of soup and a piece of apple pie to the uninitiated—spells luncheon to countless Americans every day. Harmless enough in itself, such a "meal" in conjunction with a hastily-gulped toast-and-coffee breakfast and a poorly-balanced dinner may easily lead to a vitamin deficiency. The *classical* vitamin deficiency diseases may seldom result, of course, but numerous studies show that *partial* vitamin deficiencies are by no means rare. ● These cases often present few clear-cut clinical symptoms . . . and, consequently, few dramatic cures. The physician, in short, has no simple yet reliable check on the potency of the vitamin preparations that he employs. He must rely almost entirely on the integrity of the manufacturer. Perhaps it is the realization of this fact that prompts more and more physicians every year to specify *Abbott* on all their vitamin prescriptions. ABBOTT LABORATORIES, NORTH CHICAGO, ILLINOIS.

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THE INHERENT DANGER OF PRURITUS VULVAE

→ Prolonged vulvar itching presents two dangerous complications: traumatic lesions from scratching, and profound emotional disturbance. In the management of pruritus vulvae, the agonizing pruritus should be controlled when the patient is first seen, though days or weeks may be required to determine the cause. Calmitol Ointment, applied directly to the involved area, promptly stops the itching. Relief lasts for several hours from a single application, bringing with it emotional quiet. In pruritus vulvae due to genital eczema, trichomonas vaginalis, monilia and yeast infestation, and kraurosis, Calmitol Ointment because of its specific antipruritic action, deserves being the first step in therapy.

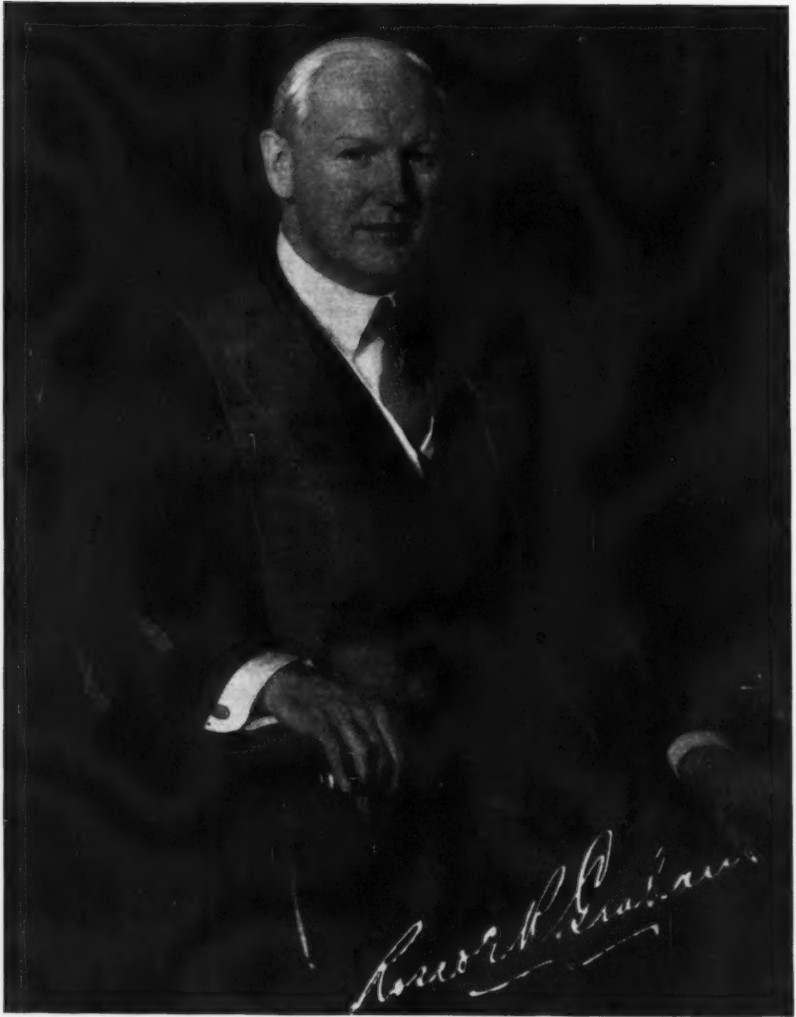
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Calmitol contains chlor-iodo-camphoric aldehyde, levo-hyosine oleinate, and menthol, incorporated in an alcohol-chloroform-ether vehicle. Pruritus is controlled through its blocking action upon cutaneous receptor organs and nerve endings. Calmitol is protective, bacteriostatic, and induces mild active hyperemia.

CALMITOL

THE DEPENDABLE ANTI-PRURITIC



ROSCOE REID GRAHAM, M.D., C.M., F.R.C.S. (Can.), F.A.C.S.

Volume 49 * Number 1

JANUARY, 1942



Clinical Medicine

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* Editorial *

Dr. Roscoe R. Graham

President, Interstate Postgraduate Medical Association of North America

THIS year one of our distinguished Canadian confreres is serving as president of the Interstate Postgraduate Medical Association, and we take pleasure in introducing him to the readers of CLINICAL MEDICINE.

Roscoe Reid Graham was born at Lobo, Ontario, Canada, January 2, 1890, and at the age of 20 years (in 1910) received the degrees M.D., C.M. from the University of Toronto, after which he did graduate work at St. Bartholomew's Hospital ("Barts"), London, England.

Returning to his homeland, Dr. Graham became a member of the Faculty of Medicine of his *Alma Mater* and of the surgical staff of the Toronto General Hospital. Since 1929, he has been assistant professor of surgery at the University and senior surgeon at the Hospital. He is also surgeon at St. John's Hospital for Women.

During World War No. 1 he served overseas, as

a captain in the Canadian Army Medical Corps, since when he has been in practice in Toronto, devoting special attention to surgery of the thyroid, breast, and gastrointestinal tract.

Dr. Graham is a member of the Canadian Medical Association; the American Surgical Association (past-vice-president); the Canadian Association of Clinical Surgeons (secretary); and a fellow of the Royal College of Surgeons (Canada) and the American College of Surgeons (past-vice-president), and has contributed a number of articles in his special fields to the periodical literature, as well as (recently) a section on surgery of the stomach and duodenum for Bancroft's new "System of Operative Surgery."

We greet the President of the Interstate Postgraduate Medical Association, and wish him success and joy in all his efforts.

PROGRESS IN THE SCIENCE AND ART OF MEDICINE—1941

PERHAPS the most important advance during the past year has been the release of the new sulfa drug, *Sulfadiazine*, which seems to be the best remedy for pneumonia, so far; at least as effective as sulfanilamide in streptococcal and gonorrheal infections; effective against Friedlander's bacillus and in meningitis (since it enters the spinal fluid); maintains high blood levels when given by mouth; and causes fewer unpleasant symptoms than the other sulfonamides.

New Developments

The Leitz people have introduced a new photoelectric *colorimeter*, which should take the guesswork out of many chemical analyses. Sperti, Inc. offers a *portable ultraviolet lamp*, which operates effectively with a mercury-vapor arc and is within the budget of any physician.

The Sherman Laboratories have perfected a *skin test for pregnancy* (Primicol), using the Falls-Freda technic, that seems to be as reliable as any of the others now in use, and also much simpler and more rapid. Becton, Dickinson & Co., have worked out a simple and satisfactory apparatus for giving *continuous intravenous anesthesia*, which should make this method more popular.

Insects have been definitely identified as vectors in *poliomyelitis* and *encephalitis*. H. D. Kruse has developed a method for studying the conjunctiva with the biomicroscope, to detect early cases of *vitamin A deficiency*. The work begun in England on a new drug, *ethylene disulfonate*, for use in the treatment of *allergy*, is being carried on, with encouraging results, in this country, but it is not yet ready to release.

The Westinghouse Electric Co. has devised an apparatus for making inexpensive *mass x-ray surveys of chests* for the early detection of *tuberculosis*. Photographs of fluoroscopic images are taken, with a small candid camera, on 35 mm. film, and studied in magnifying viewing boxes. A simple, compact apparatus for giving *electric shock (convulsion) treatment* in psychoses is now available.

Dr. George D. Geckler and the Columbia Recording Corp. have produced a set of phonograph records of *normal and abnormal heart sounds*, which should be immensely helpful in teaching cardiac diagnosis. Professional Research Products, with Drs. Morton, Truax, and Kellner, have prepared a series of life-colored, Kodachrome lantern slides of *cross-section anatomy* of the entire body.

Prefrontal lobotomy is gaining in popularity and is producing astonishing results in severe psychoneuroses and certain psychoses (see CLIN. MED., Sept., 1941, page 216).

Therapeutics

In the highly popular field of *vitamin therapy*, the Abbott Laboratories have produced a preparation (*Dayamin*) that contains, in one pill, a complete and adequate normal daily adult ration of all vitamins.

In addition to sulfadiazine, the Schering Corpo-

ration is marketing another new sulfa drug, *Sulamyd* (sulfacetimide), that seems to be especially effective for the treatment of *urinary infections*, especially those with *B. coli*, and is also useful in *gonorrhea*. Another similar product, *sulfaguanidine*, is giving good results in *bacillary dysentery*, because it is slowly absorbed and remains long in contact with the bacteria in the bowel.

Cobra venom (supplied by Hynson, Westcott, & Dunning) is coming into wider use for the control of severe, *chronic pain*, where it seems to replace morphine effectively.

A number of observers have confirmed the effectiveness of the synthetic estrogen, *Stilbestrol*, which, when given by mouth, seems to be especially useful in correcting *female eunuchoidism*, though it is also used in the menopausal period with success. The dangers which were feared from its use appear to be minimal, if it is given in *proper doses*. A few reporters state that it gives encouraging results in *prostatism*.

The treatment of *burns* has been more fully standardized, and several methods are now available which appear to produce equally satisfactory results. That of Dr. George B. Callahan (see CLIN. MED., Dec., 1941, page 301) seems to be the simplest and most widely adaptable.

Now that a simple method for testing their concentration in the blood, to control the dosage, is available, the *thiocyanates* appear to be gaining favor for the treatment of *hypertension*, especially when they are combined with the depressor principle of the liver (Anabolin), as recommended by Cooper (see CLIN. MED., Nov., 1941, page 278).

An azo-dye urinary antiseptic, *Benzochrome*, that gives promise of real efficiency in *gonorrhea* and other *urinary infections*, is available from Schering and Glatz. It would now seem to be especially important for use in patients who are sensitive or refractory to the sulfa drugs or where they are contraindicated for any reason.

Squibb has released a new product for simultaneous *immunization* against diphtheria and whooping cough.

It now seems pretty well established that *Prostigmin*, administered parenterally and by mouth, produces gratifying results in many cases of *deafness* and *tinnitus aurium*.

These are only a few of the new medicaments that have been offered this year, but they seem to us to be among the most important and generally useful.

A Graduate Course

PRIMARILY, CLINICAL MEDICINE is made for You, our loyal readers, and so we are going to call you in consultation on a rather important matter we are now considering, which will entail a lot of work in the editorial office, if we can get it going. This work will be done gladly and happily if it will give you something you *really want badly enough to ask for it*, but we don't propose to do it unless you *do want it*.

How would you like to have us give you a *serial graduate course*, covering the problems you are most likely to meet in your daily practice in the various fields of general medicine, with one problem discussed each month for about three years?

This course would be quite different, in form and purpose, from the *Seminar*, where you all have a chance to take part in the monthly discussions, and which we intend to continue as long as enough of you are sufficiently interested to keep it going.

Briefly, the idea is to enlist the services of a number of experts in various fields, who will present, clearly and tersely, the newest and most valuable ideas regarding the findings, diagnosis, and management of *one disease each month*, as seen from the viewpoint of each specialty concerned with it. For instance, if the subject were pneumonia, you would want to hear from an internist, a roentgenologist, and a pathologist, at least, and perhaps also from a physical therapist and one or two others.

If this plan appeals to you, *write us a postcard and tell us so*. If you have ideas as to how such a course could be made most useful to you, or want to suggest certain subjects for discussion or men you would like to hear from, write as freely as you please, with the certainty that all reasonable ideas will be given careful consideration.

But even if several hundred of you ask for this course, we do not *promise* that we will give it to you, because that will depend upon our ability to secure enough capable teachers who are willing to follow through with the work. However, the more of you *ask* for such a course, the better will be our chances for getting the instructors.

We know that this is a busy time of year, but if you are in earnest about having a chance like this, we also know that you can find time (not more

than five minutes), within the next 24 hours, to send us at least a postcard.

We have laid the "history of the case" before you. Now it is *up to you* to do your part in the consultation in which we are inviting you to participate.

If he can read his opinions of twenty years ago and not blush, he was born a prophet or he hasn't grown any in twenty years.—ROBERT QUILLEN.

The War

HOWEVER any of us may have felt about this country getting into the war that has been devastating Europe during the past two years or so, or about the diplomatic maneuvers of the present Administration, the fact remains that we are *in it now—up to the hilt!*

In this effort (which will probably be longer and more exhausting than most people can imagine, at present), the medical profession must and will bear its share of the burden. Many will be called to look after the actual fighting forces and for other coordinated activities. The others must close ranks and take up the slack, since our civilian population must be adequately cared for.

It is our intention to assist these rearrangements in every way that lies in our power, and if our readers can think of any ways that will be especially helpful, we will be glad to hear from them.

It is our intention to assist these rearrangements in every way that lies in our power, and if our readers can think of any ways that will be especially helpful, we will be glad to hear from them.

Quiet minds cannot be perplexed or frightened, but go on, in fortune or misfortune, at their own private pace, like a clock during a thunderstorm.—ROBERT LOUIS STEVENSON.

NEXT MONTH

Dr. Marvin L. Slate, High Point, N. C., will discuss the advantages of Vinethene as a general anesthetic for minor, as well as major, operations.

Dr. Herman J. Achard, Glendale, Calif., will explain the virtues of sublingual medication.

The concluding parts of the articles by Dr. Corbus and Dr. Lake will appear.

COMING SOON

"The Prostate Gland and Rectal Troubles," by Winfield Scott Pugh, B.S., M.D., New York City.

"Physical Therapy Technics and Experiences," by Joseph E. G. Waddington, M.D., Detroit, Mich.

SHATTERED DARK

Engrave this lesson on your learning soul:
However black the pall that hides your goal,
Sun lances break the hollow night's dark bowl.

G.B.L.

★ *Leading*



Articles ★

Recent Advances in Gastro-Enterologic Practice

By

WALTER C. ALVAREZ, M.D., Rochester, Minn.
Division of Medicine, Mayo Clinic



DR. ALVAREZ

Dr. Walter C. Alvarez, versatile gastro-enterologist of the Mayo Clinic, here points out, in his breezy and fascinating style, the important advances that have been made in his specialty during recent years.

Gastroscopy

DURING the last few years probably the most striking development in gastro-enterology has been the increased interest in gastritis, which is due to the ever-widening use of the Wolf-Schindler gastroscope. As everyone knows, this instrument now makes it possible for the trained specialist to examine visually the mucous lining of the stomach. In a considerable percentage of the patients examined, abnormalities can be seen. Often there are small changes suggesting a mild superficial gastritis. In some cases there are atrophic changes, and occasionally there are hypertrophic changes in the mucosa. More rarely there is an ulcerative type of gastritis. Sometimes there are one or more small ulcers, too shallow to be noted by roentgenologic examination; occasionally there are places that look as if they had been bruised, or places from whence there probably was bleeding. Occasionally a carcinoma can be seen, which could not be recognized by roentgenologic methods.

In many cases, then, the gastroscopist contributes much to the diagnosis, but in other cases it is hard to know what relation the lesions he has found have to the symptoms. Several investigators have found that some 20 per cent of persons around sixty years of age have no hydrochloric acid, and a large percentage of these have no symptoms. I sometimes say to a patient with an atrophic gastritis and no great amount of indigestion, "I do not know that you need worry about the atrophy of your gastric mucosa much more than you worry about that atrophy of the hair follicles on your scalp which has given you a bald head. It is all a part of the aging of the body."

To the young physician just out of college it may seem as if every little peculiarity in the gastric mucosa must be held responsible for the indigestion of the patient, but as he grows older and sees how

many duodenal ulcers and diseased gallbladders full of stones produce no symptoms for months or years at a time, he will begin to wonder how important some of his gastroscopic findings are.

It will take several years before medical opinion can crystallize in this matter, and in the meantime the practical physician will be asking, "When should I have a patient gastroscopied?" Obviously it should not be done in every case of indigestion. The discomfort produced by gastroscopy may not be terrible, but no one who has witnessed the procedure will feel any desire to get up on the table and have the tube passed on himself. He will want to wait until he definitely needs it. Fortunately, in most cases of indigestion, the diagnosis can be made with the help of a history and a good roentgenologic examination. If, let us say, a man has hunger pain and the roentgenologist sees a duodenal ulcer, the chances are that that is all that is the matter with him, and one hardly needs to go ahead and gastroscopize him. But if a man of sixty who has always had a perfect digestion suddenly gets symptoms suggesting an ulcer, or if he has a gastric hemorrhage and the roentgenologists cannot see any sign of a lesion, he should promptly be gastroscopied. If this were done in all cases of this type there would soon be fewer deaths from inoperable carcinoma of the stomach. In some puzzling cases a definite carcinoma or a suspicious looking ulcer or a bleeding point can be seen. In other cases the physician will feel easier in his mind when no abnormality can be found in the gastric mucosa.

Occasionally the gastroscopist can help in differentiating a benign from a malignant ulceration of the stomach, or he can help the clinician in deciding whether to try medical treatment for a few weeks or to ask for an immediate operation. Today all questionable gastric lesions which are under medical treatment should be looked at every few weeks with the gastroscope until they are entirely healed, and even then it may be well to look in again after a month or two.

Regional Enteritis

Another big advance in gastro-enterology in recent years has been the discovery of the importance of regional stenosing enteritis, which causes a thickening of the wall of one or more segments of the small bowel and with this a narrowing of the lumen. This disease should be thought of whenever a patient has repeated attacks of diarrhea, associated perhaps with cramps and some fever. Often there is a suggestion of chronic appendicitis, and the lesion in the terminal portion of the ileum will perhaps be found at the time of operation.

Most commonly the affected segment is the last 30 to 60 cm. of the ileum, but occasionally there are diseased segments farther up the bowel. Recently I have found it helpful in making the diagnosis to measure the blood sedimentation rate. In cases of functional diarrhea this is usually less than 25 mm. in an hour, whereas in cases of regional ileitis I have found it usually between 40 and 70 mm. in an hour.

The best treatment in most of these cases is early operation with removal of the affected segment of bowel, together with a considerable length of normal bowel on either side. In most cases the results of such treatment have been excellent, but in some the disease has returned.

Diaphragmatic Hernia

Another important advance has been the recognition of the frequency with which the stomach tends to herniate backward through the esophageal hiatus of the diaphragm and into the thoracic cavity. The presence of this defect is usually missed unless the clinician notices suspicious symptoms and asks the roentgenologist to lay the patient down on a horizontal fluoroscope and have him strain as at stool.

To be sure, in many cases such a hernia is probably not productive of the symptoms complained of, but in some it is. Quite a number of the persons with symptoms from the hernia have had a futile cholecystectomy performed before they learned what the real trouble was. Some of the symptoms are due to the pinching of the gastric wall in the hernial sac and the resultant formation of an ulcer. Some of these patients come with only one complaint, and that is anemia due to oozing of blood from the ulcer. Some, when questioned, will admit that they have difficulty in swallowing. Curiously, they will seldom complain of the typical symptoms when they first go to see the physician. Some have distress mainly when they lie down or when they bend over to tie a shoe.

In many cases the patient will have both a diaphragmatic hernia and an ulcer or a diseased gallbladder, and then it will take a great deal of clinical judgment on the part of the physician to decide wisely which lesion is causing the symptoms or most of them. Sometimes the main trouble is a neurosis, and neither of the organic defects is causing the symptoms.

Psychosomatic Disease

A big advance in recent years has been a more widespread recognition of the important part that psychic strain and emotion play in the production of indigestion. In about a fourth of the cases seen by a consultant the essential factor is constitutional inadequacy, together with worry, strain, fatigue, and perhaps some psychopathy. There is still great need for training young physicians to recognize these patients promptly so as to keep from operating on them or doing too many things to them. More physicians must be trained to see that these patients cannot be made over by any operation known to man. Often the more one tinkers at some particular organ the worse the patient gets. He or she must be treated as a whole. Few physicians today think of the brain as an organ of the body which might have some diseases or defects or malfunctions all by itself.

Another big advance is the growing realization on the part of physicians that even in the presence of organic disease such as ulcer, chronic

ulcerative colitis, or regional stenosing enteritis, psychic factors can be tremendously important in causing the flare-ups. We know today that one of the most important if not the most important factor in producing recurrences of duodenal ulcer is a psychic one. Actually, I feel sure that it is far more important that a patient with an ulcer keep away from worry than that he keep away from corned beef and cabbage.

Although it has been known for years that the so-called mucous colitis is not a disease of the colon, I think the last few years have brought a more widespread and a very helpful appreciation of the fact that it is not a course of medicated enemata that the patient needs, but rather help with his or her psychic problems.

Amebiasis

Another advance has been the appreciation, in recent years, of the frequency with which amebiasis causes trouble in the right lower quadrant of the abdomen. Since it has been pretty well demonstrated that the removal of the appendix in the presence of subacute amebiasis usually results in the death of the patient, it may be that some day in the future every patient who goes to the hospital for the removal of a "chronic appendix" will have a preliminary injection of emetin "just in case." Certainly, as John Berkman has shown, if at operation the cecum or appendix looks at all suspicious, or if on the day following the operation the temperature shoots up, an injection of emetin should be given.

The Meulengracht Treatment of Ulcer

As yet it is hard to say whether the Meulengracht method of promptly feeding a patient who has a hemorrhage from a peptic ulcer represents an advance in gastro-enterologic practice. Some physicians believe it does, and statistics point that way, but in a few cases the procedure does not work well. My own feeling is that it should be tried longer because, in many ways, it seems more logical to protect the patient from having the gastric juice eat out the clot forming in the bleeding vessel than to protect him from having food dislodge it. As I have said, several statistical studies indicate that the Meulengracht method has resulted in fewer deaths. Other studies have shown that the most important factor in determining the mortality rate after hematemesis is the age of the patient and therefore the hardness and rigidity of his arteries.

Sulfaguanidine

It is as yet too early to know how useful sulfaguanidine is going to be in cases of chronic intestinal infection. It does not yet seem to have been of outstanding value in cases of chronic ulcerative colitis or regional enteritis. It may, however, prove to be of value in preparing patients for operations on the intestine, and it seems to be of value in the treatment of some forms of acute diarrhea.

Food Sensitiveness

Gradually gastro-enterologists are coming to see that in many puzzling cases of flatulence, bloating, indigestion, abdominal cramps, and sore colon, food sensitiveness, with or without allergy, plays an important rôle. Unfortunately, as yet few physicians have learned the several technics for identifying the offending foods. One big advance is the admission by most allergists that the tests for skin sensitiveness are not trustworthy and often not helpful when it comes to identifying the foods

that are causing indigestion, abdominal pain, or urticaria.

It must be remembered that giant urticaria is often due purely to psychic causes. Canker sores in the mouth are commonly due to the eating of some allergen.

Migraine

A big advance of late has been the recognition by research workers in the field of migraine that this type of headache has little if anything to do with disease below the neck. It is a disease probably of the sympathetic ganglia in the neck which regulate the diameter of branches of the external carotid artery. Gynergen (ergotamine tartrate) or inhalations of oxygen stop the headache if and when they close down those arteries and stop the surging of blood through them.

It has been shown that migraine has nothing to do with the liver, except in so far as the coming of cirrhosis or jaundice tends to cure the headaches. It has been shown also that there is a tense, keen, migrainous type of temperament which has most to do with producing the attacks. Food allergy appears to be only one of the insults that can bring on an attack. There are others that will work equally well, such as menstruation, fatigue, nervous tension, or bright light.

Carcinoma of the Stomach

An advance in gastro-enterology has been the recognition by some specialists that cancer of the stomach is curable in perhaps 30 percent of the cases in which the lesion is resectable and the patient can stand the operation. Most physicians are still too pessimistic about cancer of the stomach because they do not know what can be and has been accomplished in this field.

Another big advance has been the gradual acceptance of the view that if persons with carcinoma of the stomach are ever to be cured, the correct diagnosis must be made immediately and the patient must be operated on within a few days after he has gone to a physician with the first symptoms of loss of appetite or strength or weight, or with the first hunger pain or hematemesis or signs of anemia.

Cirrhosis of the Liver

Advance in the treatment of cirrhosis of the liver has come through the recognition of the fact that something can be done for many of the patients if they are treated early, before the ascites is hopelessly advanced. As Snell and his colleagues have shown, much can be done with a high-carbohydrate, low-protein and low-fat diet, with vitamins added. Mercurial diuretics seem often to do more harm than good. Interestingly, many patients who get over the acute decompensated stage of cirrhosis live on for years without any symptoms even of indigestion.

Vitamin K

The greatest advance in the treatment of patients who must be operated on in the presence of jaundice and grave liver disease has, of course, been the discovery of vitamin K and the methods for estimating the prothrombin time of the blood. With these discoveries has vanished the great danger of death due to postoperative oozing, which for years was the bugbear of abdominal surgery.

The Drip Method for the Treatment of Ulcer

In some cases it has been a great help to use the drip method for the treatment of ulcer. Theoretically it should be the ideal treatment because it keeps the stomach and duodenum protected in the first hours of the night, when they are probably in greatest danger from unbuffered gastric juice. The several aluminum preparations have brought an advance in the treatment of ulcer.

The Use of the Ward and Wangenstein and Miller, Osler-Abbott Tubes in Relieving Intestinal Obstruction

An advance in gastro-enterology has been worked through the increasing use of constant gastric suction in some cases in which the stomach empties poorly after operation. The Miller, Osler-Abbott tube has been a lifesaver in some cases of intestinal obstruction in which it has decompressed the bowel and tided the patient over until he was a much better surgical risk.

Progress in Internal Medicine

(A Symposium)*

DIABETES

By Robert W. Keeton, M.D., F.A.C.P., Chicago, Ill.
Prof. of Med., Univ. of Ill., Coll. of Med.

DIABETES is strictly hereditary, on a recessive basis, but may be latent for years. However, all identical twins always become concordant after the age of 43 years.

Injury is never, by itself, an adequate cause for diabetes. There must be a hereditary background.

In the prevention of diabetes, any measure that will spare the pancreas, during early life or the early stages of the disease, will be helpful.

DISEASES OF THE LIVER

By Sidney A. Portis, M.D., F.A.C.P., Chicago, Ill.
Assoc. Clin. Prof. of Med., Rush Med. Coll.

*Presented before an Illinois State Meeting of the American College of Physicians, at Chicago, Dec. 6, 1941. Reported by G. B. L.

SUSTAINED hyperglycemia and glycosuria, which do not respond to insulin, are caused by irritative disease of the liver—cholecystitis and cholelithiasis.

In such cases, give from 400 to 500 Gm. of dextrose (in solution) intravenously, every day until the carbohydrate metabolism is stabilized; then operate. After the operation there will be no more hyperglycemia and glycosuria.

CHEMOTHERAPY

By Paul S. Rhoads, M.D., F.A.C.P., Evanston, Ill.
Asst. Prof. of Med., Northw. Univ. Med. Sch.

THE most important chemotherapeutic event of 1941, for clinicians, has been the release of sulfadiazine, which is the best sulfa drug so far—almost universal in application; low in toxicity; and protective against Friedlander's bacillus.

The only bad features of the drug, so far, are commercial (it costs 15 cents per tablet, and as

yet there is no sodium salt for parenteral use), and will probably be corrected soon.

With sulfadiazine we can obtain and hold an adequate blood concentration of the drug with half the doses required with the other sulfonamides.

Another interesting suggestion is the daily administration of small doses (0.05 Gm.) of *nearsphenamine* in subacute bacterial *endocarditis*.

PNEUMONIA

By Italo F. Volini, M.D., F.A.C.P., Chicago, Ill.
Prof. of Med., Loyola Univ. School of Med.

THERE is less *empyema* following pneumonia, when sulfadiazine is used, than there was formerly.

The fall of temperature following this drug (giving 1.0 Gm. every 4 hours) is more critical than that produced by other sulfonamides, and high blood concentrations can be maintained with smaller doses.

Contrary to a fairly general impression, pneumonia cases must now be observed and studied more carefully than ever before. Sometimes they will need serum, along with the chemotherapy, but this is rare.

CONTAGIOUS DISEASES

By Archibald L. Hoyne, M.D., F.A.C.P., Chicago, Ill.

Clin. Prof. Pediat., Rush Med. Coll.

MANY contagious diseases are now being treated largely with the sulfa drugs. This simplifies the treatment and reduces the necessary laboratory work; but it is unfortunate to use such treatment, unintelligently, in all such diseases. However, if no specific treatment is available, such drugs may be tried, under careful observation and control.

It is no longer necessary to treat *meningitis* by intraspinal (intrathecal) injection.

Tetanus toxoid should be given to children for prophylaxis, and may be combined with *diphtheria toxoid*.

Children's diseases are being better controlled and prevented, by modern treatment, than ever before.

SURGICAL SHOCK

By Warren H. Cole, M.D., F.A.C.S., Chicago, Ill.
Prof. of Surg., Univ. of Ill. Coll. of Med.

THE question as to whether surgical shock is the same as vascular collapse after hemorrhage is not yet fully settled, but it seems probable that, after several hours, they are the same.

In shock, the amount of vitamin K in the blood is high; and the higher, the more severe the condition is.

Swingle, *et al*, have reported that *adrenal cortex extracts* (true extracts, not synthetics) will often prevent shock, and are sometimes useful in its treatment. My associates and I have confirmed this observation.

Acacia helps, but it gums up the liver; *pectin* looks promising; but *blood transfusion* still remains the best treatment, though *plasma* (including the dried form, in emergencies) may do well in some cases, but not in all.

PHYSIOLOGY

By Andrew C. Ivy, M.D., F.A.C.P., Chicago, Ill.
Prof. of Physiol., Northwest. Univ. Med. Sch.

THE scientific activities of physiologists in 1941 have been unprecedented. Among other matters

reported have been the fact that the *retina* is the most sensitive end-organ in the body, and more sensitive than any physical apparatus that has been constructed; the brain waves recorded by *encephalography* show that *epilepsy* and *migraine* are related; and that lesions in the frontal lobes destroy the sense of absolute time.

Glomset has reopened the question of conducting substance in the heart. We can demonstrate the bundle of His in sheep and beef hearts, but not in human hearts.

HYPERTENSION

By M. Herbert Barker, M.D., F.A.C.P., Chicago, Ill.

Asst. Prof. of Med., Northwest. Univ. Med. Sch.

HYPERTENSION is now a big (perhaps the biggest) problem before the medical profession. This year, 625,000 people have died in this country from its direct and indirect effects.

Renal ischemia is not the only, and perhaps not the main factor in causing it. *Renal tissue extract* relieves the symptoms, and the heart and eye-ground lesions, even when there is little reduction of the actual blood pressure levels.

Surgery is not so popular in treating hypertension as it was a few years ago. It is now finding its true level of usefulness.

ARTHRITIS

By Ernest E. Irons, M.D., F.A.C.P., Chicago, Ill.
Clin. Prof. of Med., Rush Med. Coll.

PROGRESS in arthritis cannot be measured in terms of one year. It has been, and probably will be, a long, slow process. We have now reached the point where we distinguish between *rheumatoid* and *osteoarthritis*, and also *gout*.

In *rheumatoid arthritis*, the whole man is sick, not merely his joints; and we must treat the whole man, including his *psychic mechanism*.

So far, no specific remedy for atrophic (rheumatoid) arthritis has been found, but most of the remedies that have stood the test of clinical trial give about 70 percent of good results, so there is some encouragement that we can give these patients. Just now, *gold salts* are prominent, but there is a definite factor or danger in using them.

CARDIOLOGY

By Gilbert H. Marquardt, M.D., Chicago, Ill.
Assoc. in Med., Northw. Univ. Med. Sch.

THE early use of sulfa drugs makes it hard to get blood cultures in *subacute bacterial endocarditis*. Better results can be obtained by adding *parameino benzoic acid* to the culture medium.

In *coronary disorders* the coronary dilators still offer the best results, and must be given in sufficient doses to do the work; but *psychic* factors are highly important and must have proper attention.

ENDOCRINOLOGY

By Willard O. Thompson, M.D., F.A.C.P., Chicago, Ill.

Assoc. Clin. Prof. of Med., Rush Med. Coll.

Desiccated thyroid is the best preparation of its general type.

All patients should have careful preoperative treatment before thyroidectomy.

Male sex hormone has been given to *female cretins*, with some interesting results.

In *diabetes insipidus*, powdered pituitary extract should be insufflated *high up* in the nose.

Stilbestrol, given by mouth, is an effective estrogenic substance, but still seems to be dangerous.

We will have some similar, but safer, product for oral use in a few years.

Methyl-Testosterone is definitely effective when given by mouth, but is still rather expensive.

New Ideas on Cancer

Comments on Recent Work Regarding its Hereditary Character

By

ERIC HARDY, F.Z.S., Liverpool, Eng.

The problem of cancer is by no means solved, and anyone who has new and well founded ideas in regard to its cause and treatment is entitled to a hearing. Mr. Hardy here offers some suggestions that may prove valuable.

ANIMAL owners need little reminding of the frequency of cancer in dogs, cats, horses, etc., or of the many theories, researches, and controversies that have developed around the subject. In the mouse and dog, cancer occurs naturally, and most frequently, in the mammary gland, where it presents features very similar to those of human breast tumors.

In a laboratory at Liverpool University, before the war, I was talking on the subject to one of the foremost British cancer research workers, Dr. H. E. Annett, previously professor of comparative pathology in the University, and he gave me his rather unorthodox but very definite theories that cancer, in dogs and other animals, is not only the manifestation of a natural phenomenon, but that its nature is hereditary.

Public assurance has often been given by leading research workers that cancer is not inherited, but Dr. Annett has demonstrated, by a large number of breeding experiments in mice, that cancer is inherited as a recessive character, according to the Mendelian laws of inheritance.* Furthermore, observations by keepers of large kennels of dogs have led to the conclusion that cancer of the mammary gland of these animals is inherited, and that the frequency of the disease is increased by close breeding.

Investigations that Dr. Annett made in the laboratory, with the early embryonic stages of various animals immediately following fertilization of the eggs, produced results in support of his view that many cancers are inherited as a natural phenomenon, and that their prevention is possible only by the application of eugenic breeding principles.

But the extension of these investigations into early developmental processes of the animals made it clear that there is no inheritance of anything, in the ordinarily accepted sense of the word. Nothing is "handed on" from one generation to another—neither the germ plasm of Weismann nor the particular "genes" or inheritance factors in the chromosomes of the reproductive cells. This point is bound up with the fact that many unorthodox biologists of today regard the "unit" of living sub-

stance, which carries all the potentialities for reproduction, for building up the special organs and tissues, and for all the inheritance factors, not as the cell, as is traditionally believed, but the *body as a whole*, subject to the influences of its environment. This, however, is too involved a subject to enlarge upon here.

Dr. Annett told me that he did not believe in "cancer cells," as commonly conceived, originating from normal cells that become abnormal and malignant. The cells of cancer of the skin appear to arise only from the skin or epidermis, the same as the cells which epithelialize the surface of a clean, healing ulcer of the skin. Researches carried out at Liverpool University and elsewhere have shown the existence everywhere in the body, but chiefly in the walls of the capillary blood vessels and in the supporting or connective tissues, of a "formative" cellular tissue, possessing many of the properties of the indifferent tissues of the early embryo, by means of which specialized tissues and cells are produced. It is this cell-formative tissue which, in the adult animal, will produce the cells to repair the skin defect over an ulcer, on one hand, and the so-called "cancer-cells," in cancer, on the other hand.

But further investigations showed important biologic differences between the formative tissue which produces normal cells and that which produces cancer cells; which explains the popular idea that cancer cells originate from normal cells which, in some undiscovered way, have become malignant.

The possibility of producing a curative substance of a purely biochemical nature which, when administered, will destroy or disintegrate an abnormal growth, has already been investigated, but despite encouraging results for the development of a cheaper and more generally applicable substitute for radium, it is not to be expected that a complete cure can be found in this way.

The fact that tumors of the mammary gland of the mouse can be successfully transmitted through successive generations of mice by aseptic transplantation of minute portions of the original tumor to another animal, has suggested the inheritance theory, but many modern cancer research workers have told me that they strongly oppose such a belief. Successful transplantations have been made of the so-called infective sarcomas of fowls, but Prof. J. F. Shirlaw, of Lahore Veterinary College, India, and formerly of the Royal Veterinary College, London, has disclaimed this theory of hereditary transmission of malignant tumors. However, Dr. Annett has ample qualifications for his views, because until just before the war, he was engaged continuously, for more than twelve years, in cancer

*This parallels and confirms the work of Dr. Maude Slye, of the University of Chicago, as far as a tendency to develop cancer is concerned.—Ed.

research work in the pathologic laboratories at Liverpool University, and in 1931 he was elected to the Samuel Turner Research Fellowship for a term of three years, to continue his work in a special laboratory under the general supervision of Professor J. H. Dible. His views are, however, certainly unorthodox and opposed to those generally accepted today.

While the histories of cancer patients who present themselves at the clinics of the large hospitals rarely permit any conclusion to be formed on the subject, it is generally admitted by medical authorities that the disease occasionally attacks all or many members of a family, and sometimes members of successive generations. But in certain parts of a country, which are more or less isolated and where the peasants almost always intermarry, evidence of cancer inheritance is comparatively easy to obtain. Most of Dr. Annett's researches were made with cancers of mice and other animals, but abundant evidence confirming the results accrued from the examination of human tumors.

Other cancer research, by other workers, has shown that parasites in the bowels of a fowl may result in the formation of proliferations from the epithelium which burrow into the adjacent tissues and form tumors; and somewhat similar growths have been seen in the bile-ducts of the livers of rabbits affected with coccidiosis. It has also been found that, in rats fed with the eggs of a tapeworm of the cat (*Taenia crassicolis*), an infiltrating tumor growth appears at the margins of the cysts which form in the rat's liver. By repeatedly painting the

skin of a mouse with tar or paraffin oil, a cancer may be produced in a great majority of cases; while successful transplantations have been made of the so-called infective sarcomas of fowls.

Some research has even revised the microparasitic theory of cancer, whose proponents described various micro-organisms obtained from cancerous lesions, some of them intracellular and some extracellular, the latter including bacteria; but the possibility of secondary infection following ulceration of the primary lesion is always a possibility to account for their presence.

Gye and Barnard suggested that cancer in the dog and man is caused by the same ultravirus, but a different "specific character" appears in each animal, which explains why it was possible to transplant tumor cells from mouse to mouse, but not from a mouse to another animal, even if closely related. Yet the union of mouse specific factor with tumor tissue from the rat or other animal will produce a tumor in the mouse.

These brief summaries of recent work on the nature and causation of cancer are still largely undigested and more or less controversial, and have not been fully verified in regard to human beings, but they show that progress is actually being made in this difficult field, even if some or all of these theories are proved to be false, for in that case the time and energies of research workers will be released to pursue studies along other, and possibly more promising lines.

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Progress in Urology

Part I

By

B. C. CORBUS, JR., M.D., M.S.

Lieut. Med. Res. U. S. Navy, Great Lakes, Ill.

EACH year the stride of medical progress is such that the practitioner, due to the pressure of circumstances, often finds himself incompletely informed about recent advances in specialty procedures as directly related to his own general practice. If this paper can achieve the purpose of acquainting the practitioner of general medicine with the newer ideas in the practical side of urology, its mission will have been fulfilled.

It would seem expedient to take up, in a discussion of this nature (1) urography, its refinement and indications; (2) cystoscopy and when it should be recommended; (3) the diagnosis and treatment of urinary infection; (4) care of the bladder postoperatively; (5) bladder-neck obstructions and their diagnosis; (6) calculous disease, its postoperative management and subsequent prophylactic treatment; (7) the differential diagnosis of testicular enlargements and their treatment; (8) painless hematuria and its significance; (9) prostatic hypertrophy, its etiology; (10) carcinoma of the prostate; and (11), briefly, the nature of renal hypertension.

Veneral disease deserves particular emphasis, due to the tremendous success with which new methods have been employed in gonococcal infection. Syphilis is considered in the light of a newer therapy which, however, at the present time, has not been sufficiently tried to warrant universal acceptance as yet.

Urography

Urography has long been known to urologists as a procedure to ascertain the status of the upper urinary tract by injecting a radio-opaque substance in sufficient amounts to fill the collecting system and its connecting elements, the calyces, pelvis, and ureters. This required a cystoscopic examination and the retrograding of hollow x-ray catheters to the renal pelvis, through which the opaque material was injected. The refinements of the intravenous method of doing urograms during the past ten years have been such as to obviate, in a large number of cases, the necessity for subjecting the patient to cystoscopy. As always, in the case of a new procedure, it has been abused, and too many patients have been allowed the benefit of the newer procedure without a full realization of the proper technic which should be employed.

Intravenous urography is performed by merely injecting 20 cc. of a radio-opaque dye into a vein, but that is the most unimportant part of the entire procedure. It must be remembered that the dye should be in such concentration in the blood stream as to visualize the entire collecting system adequately. This can be accomplished only by the realization of two factors: proper dehydration, and sufficient gas elimination from the bowel. In urologic clinics, from 12 to 16 hours of dehydration, prior to taking the pictures, is routine, in addition to the administration of castor oil or

compound liquorice powder as a gas-eliminating cathartic. A small breakfast is optional. Films are taken at 5, 10, 20, 30, and 45 minute intervals, depending upon what information is principally desired. It must be said, in passing, that unless intravenous urography renders *completely adequate visualization* of the upper urinary tract, it must not be used to supplant the retrograde procedure in ruling out potential pathoses.

Cystoscopy

Cystoscopic examination is an indispensable procedure in the majority of patients complaining of lower urinary tract symptoms. There is seldom need for general or regional (spinal or caudal) anesthesia in these individuals. A rectal suppository of opium and belladonna, morphine hypodermically, and the topical application of Nupercaine or cocaine in both the anterior and posterior urethra, render the procedure relatively painless.

Accompanying all cystoscopic examinations, whether or not a urogram is undertaken, a flat "K. U. B." plate (a plain x-ray film visualization of the soft tissues in and about the kidneys, ureters, and bladder) should be taken. Unsuspected calculous opacities are often thus encountered, in addition to gross abnormalities of soft tissue structure or bony frame. Cystoscopy is of great importance in ascertaining the type of vesical neck obstruction, and once this is ascertained, to give information as to what procedure is to be used in proper therapeutic management.

To illustrate, let us consider, briefly, the case of a 68-year-old man, who, for the past 3 or 4 years, has noticed a progressive difficulty in urination. No venereal history was admitted; nocturia had been bothersome, 2 to 3 times nightly, for the past 18 months; and the force of the stream had greatly diminished, necessitating much straining to effect adequate micturition. Rectal examination was negative—a small, fibrotic, smooth, and firm prostate was all that could be felt. The rest of the examination was negative, except for a slight elevation in the systolic blood pressure (155/90).

This man had a cystoscopy, and the bladder revealed a posterior commissural (solitary median lobe) type of hypertrophy, extending along and upwards from the floor of the internal urethral orifice. This type of hypertrophy is ideally suited for *transurethral resection*, but could be properly appraised only by a cystoscopic examination.

It must be borne in mind that, in making a rectal examination, the forefinger is unable to detect middle-lobe hypertrophy, subcervical (pretrigonal type) enlargement, or contractions of the bladder neck. These are common urologic entities, which will not be dealt with here. Suffice to say that, in all suspected bladder-neck obstructions, cystoscopy is indispensable.

Urinary Infection

Nonspecific infection of the urinary tract, as seen in the ordinary asymptomatic patient who appears with pus in his urine, constitutes the largest group seen in a urologic office practice. The most important steps in making the diagnosis of a case of this type are the meticulous collection of an aseptically-obtained urine specimen, its bacteriologic culture, and proper identification. I have found the following rapid modification of the Gram stain technic very helpful in this regard:

Six wide-mouthed, four-ounce bottles are numbered from 1 to 6 and labeled according to the following ingredients: Bottle 1 contains alcohol-saturated gentian-violet, with distilled water in the

proportion of one part stain to three parts water; Bottle 2 contains plain distilled water; Bottle 3, Gram's solution; Bottle 4, absolute methyl alcohol; Bottle 5, plain distilled water; Bottle 6, dilute Ziehl-Nielsen carbol-fuchsin (about 1:10), whose speedy and penetrating properties are well known.

The elements of the stain differ from the original technic in two essential details: the employment of plain water for the gentian solution, in place of anilin-water (this may be used, nevertheless), and, most important, the substitution of absolute methyl alcohol for ethyl alcohol, as the destaining agent. The reason for this substitution is that the former acts far more quickly and efficaciously.

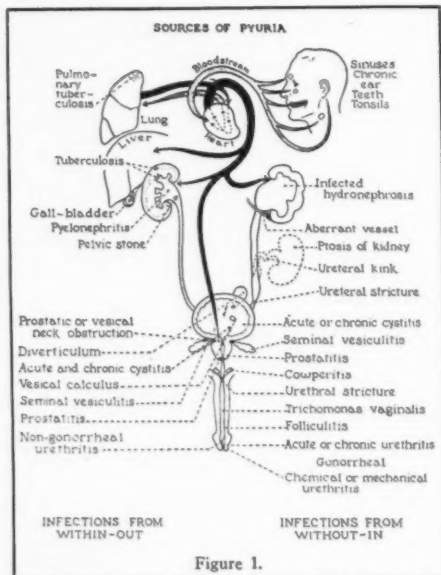


Figure 1.

In performing the Gram stain, the slide is dipped into Bottle 1 for from 5 to 10 seconds, with constant stirring; is transferred to Bottle 2 for a few seconds, excess water being taken off; then to Bottle 3 for 5 seconds, with constant agitation of the slide; thence to Bottle 4, where it takes but a few seconds to destain, especially if stirred; then transferred to Bottle 5 to wash (if it is not yet destained, the slide is returned to Bottle 4 again); and last to Bottle 6 for a couple of seconds. It is washed off in tap water. The staining and counterstaining, it will be seen, have been performed in about one minute.

It will be noticed that, after staining with gentian-violet, the slide is washed in water. According to good authorities, washing the slide with water before destaining is permissible in the employment of the Gram stain. My reason for using Bottle 2 is that, by washing off excess stain, the precipitation of the Gram solution is minimized. Finally, the only frequent change necessary is that of the wash-water, since the gentian stain itself does not deteriorate rapidly.

Urine for culture must be concentrated in the bladder for from 3 to 3½ hours, and the genitalia adequately cleansed before voiding into a sterile collecting tube. If cultures are positive, they will be apparent following 48 hours of incubation.

The pathogenesis of the casual infections may often be explained on a focal basis, and are either intrinsic or extrinsic in nature. The accompanying diagram (Fig. 1) may be helpful in recollecting the most frequent causes of pyuria.

The commonest bacterial offenders of the upper urinary tract are *Pseudomonas aeruginosa*, *Streptococcus fecalis*, *Escherichia coli*, *Aerobacter aerogenes*, *Proteus ammoniae*, and *Staphylococcus aureus*.

Choice of the optimum bactericidal agent in these urinary tract infections is an important consideration. However, I believe that insufficient attention is paid to an attempt, on the part of the physician, to attack the infection etiologically. It is not sufficient to isolate the organism and institute a course of sulfathiazole therapy, which has proved to be the most efficacious to date. A genuine effort must be made to ascertain positively whether or not a latent focus of infection exists elsewhere in the body. Teeth, tonsils, and sinuses should receive remedial attention, if found to possess any demonstrable subclinical type of inflammatory process.

Sulfathiazole, as previously stated, is the drug of choice in these casual infections of the kidney, and has been found to be effective in blood concentrations of from 25 to 250 mg. percent.

Chronic prostatitis is properly included in the category of urinary infections, and perhaps is seen by the general practitioner more often than the other types. Prostatitis, other than the acute form, is not a well defined clinical entity. Patient's complaints are varied, vague, and often include sexual neurasthenia, perineal discomfort, painful intercourse, and even impotence.

I believe that this diagnosis is made far more often than the incidence of the pathosis warrants. Bacteriologic and cultural evidence is absolutely necessary. Treatment has often been too energetic, with massage administered too often and too severely. It is a fact, proved by experiments on dogs, that repeated, heavy massaging of the gland produces mechanical bruising, with a subsequent inflammatory reaction, including actual pus formation. When (rarely) massage is recommended, it is merely to enhance the drainage of the gland and should consist of gentle downward and laterally-directed strokes, never given oftener than four days apart.

Abscess of the prostate is a rather uncommon urologic entity encountered in a general medical practice. It may be diagnosed conclusively by the demonstration of a tender, fluctuant, walnut-sized mass in the lateral prostatic lobes, when palpated per rectum. Drainage is by a simple but comparatively little used procedure—perineal prostaticotomy, without surgical exposure of the gland. A para-anal incision, about $\frac{3}{4}$ inch long, is made on the involved side. With the opposing forefinger inserted into the rectum, an 8-inch, curved forceps is plunged beneath the subcutaneous tissue, traversing the ischio-rectal fossa, and directly into the

fluctuant area. The forceps are opened and compression exerted per rectum to facilitate the evacuation of purulent material. A small rubber drain is left in place and the skin incision allowed to granulate without closure.

Postoperative Care of the Bladder

Postoperative care of the bladder is extremely important in all surgical procedures, for it is here that the prophylactic treatment of urinary infections is accomplished. It has been shown that large numbers of *B. coli* can be placed in a healthy dog's bladder, and nothing happens. However, allow that bladder to become severely distended several times, and its immunity to infection is lost. The same principle must be applied to the postoperative patient. When a patient fails to void for 10 or 12 hours following major surgery, he has rendered his own bladder pathologic from over distention, and abnormally susceptible to infection. Many urologists agree that if a bladder needs postoperative catheterization more than twice, an indwelling catheter is indicated.

The indwelling catheter problem has been greatly simplified since the introduction of the **Foley bag**. No longer need the patient's skin be mutilated with adhesive tape. The Foley catheter is made of latex rubber, and attached near the proximal end is a small rubber bulb, which is filled with from 10 to 15 cc. of water through a separate outlet at the distal end. The bulb is filled after introducing the catheter into the bladder, and the outlet clamped or fastened securely with a rubber band. The size of the bulb keeps the catheter from slipping out of the urethra. This convenient method of draining has been universally adapted by urologists in the past 4 or 5 years.

Calculus Disease

Calculus disease occurs in approximately 2 percent of the people with urinary complaints. Stones occur in the kidney, ureter, bladder, prostate, and even the urethra. Of these, renal calculus is naturally of most consequence. Stone must always be suspected in cases of intractable pyuria. Etiologically, it has been demonstrated that calcium precipitability is increased in the presence of infected urine, but whether or not this is cause or effect has never been satisfactorily ascertained.

The removal of calculi is a relatively simple matter, and the postoperative management of this type of patients is important, in order that recurrence need not subject them to additional surgery or manipulation. Urinary infection must be completely removed. Urinary stasis, as evidenced by urographic study, must be ruled out, or when present, corrected. Ample fluid intake can not be stressed too much. The majority of all stone-formers will give a history of inadequate fluid ingestion. Adequate amounts of vitamin A in the diet are believed to be important in preventing calculi, in addition to a diminished ingestion of foods high in calcium content.

(To be Continued)

BIRTH CONTROL

Birth control should have the goal, not of reducing the nation's population, but of removing an unwanted burden on the poor and ignorant, and providing the advantages of controlled parenthood. Parents in a position to have more children should be encouraged to do so and aided.—FREDERICK OSBORN, anthropologist of the American Museum of Natural History, in "Preface to Eugenics."

Notes from the International Medical Assembly

Part I

Reported by George B. Lake, M.D., Waukegan, Ill.

THE twenty-sixth International Medical Assembly of the Interstate Postgraduate Medical Association of North America was held in the Municipal Auditorium at Minneapolis, Minnesota, in October, 1941, and was the first Assembly without the founder and, for 25 years, managing director of the organization, Dr. William B. Peck, who passed to his rest last August (see CLIN. MED., November, 1941, adv. page 10). However, the meeting proceeded smoothly and successfully under the able supervision of the new managing director, Dr. Arthur G. Sullivan, who for years has been director of exhibits.

Minneapolis is a pleasant and friendly city; the Auditorium took care of the scientific sessions and the exhibits adequately; and the weather was pleasant, so the external factors of the meeting were propitious. The attendance was not so large as it has sometimes been (slightly more than 3,000), but the attendants were, as always, enthusiastic and eager to gain knowledge, and that is what makes such a gathering worth while. Next year's meeting will be held in Chicago, Ill., October 26 to 30, inclusive. The new president for 1942 is Dr. George R. Minot, of Boston.

The scientific sessions consisted of 84 lectures, demonstrations, dry clinics, discussions, and other educational presentations, interrupted for half an hour on Wednesday, by an impressive memorial service for Dr. Peck and Dr. E. Merrill Miller, a former trustee, who also left us during the past year. As usual, most of the speakers (all but 9) were members of the faculties of well known medical schools, and gave us the benefit of instruction by professional teachers.

The Scientific Exhibits

It seemed to me that the scientific exhibits were more numerous (there were 84) and instructive than ever before, and every one of them had something worth while to present. A number of them included moving picture showings, which are coming to be a highly important feature of all such exhibitions.

It would be hopeless to attempt to describe, in the space at my disposal, more than a few of these scientific presentations, so I shall mention the ones that impressed me as embodying the newest and most generally interesting ideas and procedures.

The one that struck me most forcibly was a demonstration of the mechanism, development, history, and management of *thyroid disease*, by Dr. Arnold S. Jackson, of Madison, Wis. His models and charts filled three booths, and I was sorry that I could not seem to catch the time when he was there in person, so as to hear his entire talk about them. He said that the history of thyroid disease in any country or district runs in three periods, each of from 35 to 50 years: goiter; hypothyroidism; and cretinism, and that the United States are now in the second period ("There are ten times as many cases of hypothyroidism in this country as there are of pneumonia"), while Switzerland is in the third period. He showed moving pictures of some of the Swiss institutions for the care of cretins, and of their depressing inmates.

Dr. Bernard A. Watson, of the Battle Creek Sanitarium, Battle Creek, Mich., showed a thought-provoking series of charts and diagrams outlining a procedure for the *prevention of diabetes*. The first section of this display is shown in Fig. 1.

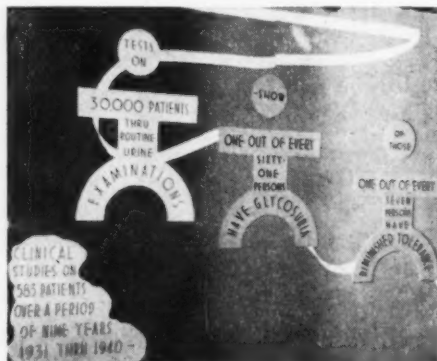


Fig. 1: Statistical details of diabetes.

Dr. George E. Shambaugh, Jr., of Chicago, brought a highly instructive exhibit showing, by means of large diagrams and actual human anatomic specimens, skillfully prepared and colored and effectively lighted, the details of each step of the immensely delicate *Lempert operation* for the cure of otosclerosis. After studying this exhibit, one understands why so few aural surgeons have, so far, attempted this procedure. An article describing this operation (but without illustrations) appeared in the *Wisconsin Medical Journal* for June, 1941.

Drs. J. Peerman Nesselrod and Jay M. Garner, of the Evanston Hospital (Ill.) and Northwestern University, showed the remarkable results of proctoscopic color photography, using a special camera with a telescope. These pictures should have great teaching value.

Drs. L. M. Tocantins, J. F. O'Neill, and H. W. Jones, of Philadelphia, Pa., demonstrated the technique of giving infusions into the bone marrow—a highly practical maneuver when, for any reason, the veins can not be used for this purpose.

Dr. Julius S. Weingart, of the Iowa Lutheran Hospital, Des Moines, Ia., showed some remarkable stereoscopic transparencies, in black-and-white and in color, of autopsy pathologic specimens and of lesions on the living body. These pictures were taken with a special camera and, when viewed through a good stereoscope, actually give one a clearer idea of the details of the specimens than one could get by holding the actual objects in one's hands. The method was described in an article in *Archives of Pathology* for May, 1935, and I feel sure that Dr. Weingart will be glad to send reprints to any of our readers who will write for them.

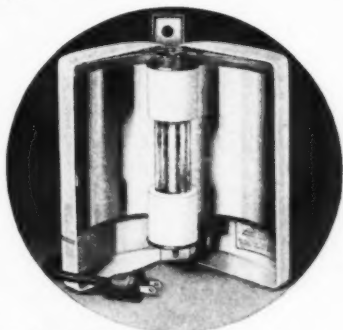
The Commercial Exhibits

The commercial exhibition filled the central part of the exhibit floor in the basement rather snugly, with the displays of 129 companies purveying to the medical profession (there are no extensive showings of assorted groceries and toilet articles at this meeting), and every booth had something interesting and instructive to show the serious and eager doctors, with well-posted men on hand at all times to tell the various stories and answer questions.

If one tried to tell about all the worthwhile things there were to see and study, it would fill a large book, so I shall merely attempt to mention, briefly, the most important (in my opinion) things I saw that had not been shown before at a national meeting. If I missed any of these, I hope somebody will call my attention to them.

Perhaps the thing of most general interest and most striking novelty was the *Sperti portable ultraviolet lamp* (see Fig. 2), which, operating on direct or alternating current by simply plugging it into a service socket, without a transformer, produces a genuine mercury-arc radiation in the therapeutic wavelengths. When closed, it measures only $3\frac{1}{4} \times 5 \times 9\frac{1}{2}$ inches, weighs about 2 or 3 pounds, and sells at a price that is within the most modest professional budget, or even a moderately elastic family budget.

I was skeptical when they told me these things, so I put on some goggles and saw the arc. Then I rolled up my sleeve, tore a hole in a piece of paper to make a mask, and exposed an area of skin on my forearm to the rays of the lamp for 3 minutes at a distance of one foot. The next morning I had a mild third-degree erythema that left a visible token on my skin for two weeks. That means that, for therapeutic use, at a distance of 2 feet, one should begin with an exposure of 1 or 2 minutes (about like the big, expensive office lamps), and increase the time as tolerance is determined and developed.



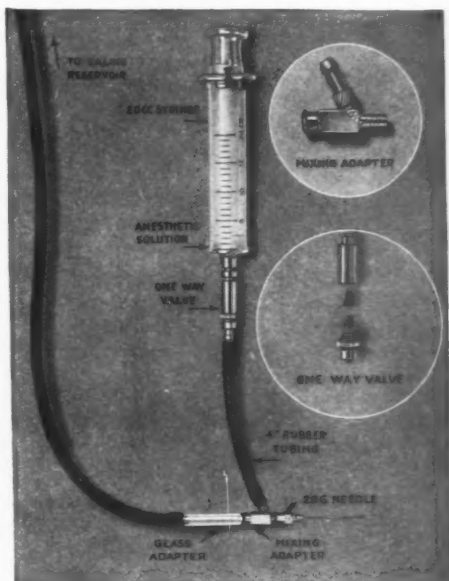
Courtesy Sperti, Inc.

Fig. 2: Sperti portable ultraviolet lamp.

There is also an office model of this lamp, with a strong, slightly pedestal, which is slightly more expensive, but still only a small fraction of the cost of one of the elaborate quartz lamps.

Next in importance I consider the Becton, Dickinson and Co. *intravenous anesthesia outfit*, suggested by Dr. W. E. Gilson, of Madison, Wis. (see Fig. 3). This apparatus appears to take all the "luck" and guesswork out of prolonged intravenous anesthesia and to be as nearly fool-proof as any highly developed scientific appliance can be. The

illustration shows the proper method for assembling the equipment, and full instructions for its use accompany each outfit.



Courtesy Becton, Dickinson & Co.

Fig. 3: Intravenous anesthesia outfit.

The new skin test for the diagnosis of pregnancy, according to the Falls-Freda technic, introduced by the Sherman Laboratories as Primicol, is less spectacular than the two pieces of apparatus just described, but may prove to be of just as great importance. The test can be performed, in his office, by any physician who knows how to give an intradermal injection, and the result determined in one hour or less. The findings are just as reliable as those of any of the complex pregnancy tests now in clinical use (98 percent accurate in 265 known pregnant women, and 96 percent accurate in 358 nonpregnant controls).

The next item is an old and reliable remedy (Patch's Gadoment) in a new package that is rather revolutionary and may largely replace suppositories in a few years. The cod-liver oil ointment is inclosed in sealed gelatin applicators, and in this form is called *Gadolets*. In use, the tip of the applicator is snipped off with scissors, the open, tapered end is inserted into the rectum or vagina, and the contents squeezed out. There is no mess or fuss or soiling of the fingers or clothing. Fig. 4 shows the application of a Gadolet in the rectum.

I can see no reason why any other medicaments that might be needed for local official application could not be placed in these gelatin applicators and used in the same way. In fact, several other oily preparations are already being so packaged for different uses.

A number of relatively new drugs, and old standbys in new forms and combinations, were presented, but I believe (though I wouldn't swear to it) that the only important one that had not been shown before at a big meeting was Schering Corporation's

Sulamyd (sulfacetimide), a new sulfa drug for the treatment of certain non-specific urinary infections, especially those due to *B. coli*. It is also effective in gonorrhea. Clinical tests show that it is slightly more effective than *sulfapyridine*, and is much better tolerated than the other presently-known sulfonamides.



Courtesy E. L. Patch Co.

Fig. 4: Gadolet in use in the rectum.

Here follow abstracts of several of the lectures, discussions, and clinics presented in the scientific sessions.

MEDICAL TREATMENT OF CHOLECYSTITIS AND GALLSTONES

By John H. Musser, M.D., F.A.C.P.,
New Orleans, La.

Prof. of Med., Tulane Univ. School of Med.

DISORDERS of the gallbladder are common in middle-aged women, but many are supposed to be suffering in this way who actually are not, and thus many unnecessary operations are performed. Surgery can cure gallstones, if they are producing symptoms, but indigestion and belching are not enough evidence on which to base a diagnosis.

Biliary dyskinesia is common in those who overeat or whose diet is poorly balanced, and who give undue attention to their bodily sensations. The pain in these cases is not so severe as that in cholecystitis with stones, but is, rather, a continuous sense of discomfort in the right upper quadrant, with indigestion. The gallbladder is not always to blame. Spasm of the sphincter of Oddi is common, and causes symptoms.

About 50 percent of people past the age of 40 years have gallstones, which frequently cause no symptoms, and should therefore be left alone. Sometimes they cause trouble by giving rise to irritation and inflammation, and then a careful diagnosis should be made (liver function tests are helpful, but cholecystograms and gastro-intestinal roentgenograms are often inconclusive), to determine the presence of cholecystitis with stones, which calls

for operation. Otherwise, the treatment should be medical.

In cases really needing surgery, the operation is often postponed because of some intercurrent condition that it might relieve or cure, such as heart disorders (including some cases of coronary thrombosis), asthma, etc.

In the medical treatment, diet is most important. Since most of these patients are more or less obese, the food intake should be reduced in quantity (to take off weight) and carefully regulated as to quality. Fats should be cut down to a minimum (replacing them with additional carbohydrates) and fried foods should be entirely eliminated. Enough protein should be given to replace all losses of useful tissues and to keep the blood balance adjusted. An adequate supply of vitamins, minerals, and fluids must be maintained. The diet should be prescribed, and the patient must cooperate.

When a bland diet, without fresh fruits and vegetables, is given, vitamin C must be added, and sometimes other vitamins, in concentrated form. The patient should eat slowly, masticate thoroughly, and rest after meals. He (or she) should, however, take moderate exercise every morning.

In the drug treatment, cholagogues are often indicated—bile salts or bile acids, without added cathartic drugs. If belching causes disturbance, a carminative may be given, such as spirits of chloroform, aromatic spirits of ammonia, and tincture of cardamom in sherry wine, or equal parts of calcium carbonate, sodium bicarbonate, and magnesium oxide, flavored with peppermint. Antispasmodic drugs, such as belladonna or the barbiturates, are often decidedly helpful.

NUTRITION IN SURGICAL PATIENTS

By Isidor S. Ravidin, M.D., F.A.C.S.,
Philadelphia, Pa.

Harrison Prof. of Surg., Univ. of Penn. Sch. of Med.

FOR regeneration of the liver, which is highly important in surgical patients, protein is required, chiefly that obtained from liver. Carbohydrates are never changed into protein. Gelatin is not adequate for this purpose, but casein is good.

Hyperthyroidism is a nutritional problem. The patient's weight is just as important as his pulse rate or basal metabolism reading. Those who are definitely underweight must be brought as nearly as possible up to normal before operation is attempted, because shock is more common in undernourished patients and a lack of protein in the blood leads to loss of fluid from the vessels.

We must not merely set food before these patients, but see that they eat it. This is facilitated by giving large doses of the vitamin B complex. Among patients in hospital, given a diet with adequate amounts of protein and carbohydrates, plus yeast, 96 percent gained weight; while with diet alone, only 26 percent gained.

In prescribing meat, it should be lean meat. Soy beans and casein are good sources of protein. The combination of amino acids (the "building stones of the body"), known as *Aminoids*,* is excellent for this purpose.

CORONARY ARTERY DISEASE

By A. Carlton Ernste, M.D., F.A.C.P.,
Cleveland, O.

Head, Cardio-resp. Dept., Cleveland Clinic

THERE are 5 conditions that must be considered

*Manufactured by the Arlington Chemical Co.

in connection with coronary artery disease. (1) Angina pectoris; (2) coronary thrombosis and infarction; (3) paroxysmal cardiac asthma; (4) Adams-Stokes syndrome; and (5) congestive heart failure. I shall discuss these briefly, in order.

Angina pectoris is characterized by pain, pressure, "tightness," etc. in the substernal region, and may cause sudden death. The pain may or may not radiate, and is relieved by nitrites.

Treatment: The patient must reduce his activities and stop hurrying, especially in cold weather or against the wind. He must eat small meals (4 or 5 a day) slowly, rest after each meal, and reduce his weight and his consumption of tobacco, tea, and coffee. Theobromine-sodium acetate, by mouth, is worth trying in all cases.

Prevention: Nitroglycerin relieves attacks of angina as well as or better than amyl nitrite, which latter is more expensive. These patients should take a tablet of nitroglycerin before and after any necessary heavy exercise, or heavy meals.

Coronary thrombosis and infarction: In these cases the pain is similar to that of angina pectoris, but is more severe, lasts longer, and is accompanied by fever, leukocytosis, and a rapid red-corpuscle sedimentation rate. Daily electrocardiograms will show characteristic changes.

Treatment: The patient must be put to bed at once, kept warm, and disturbed as little as possible. Morphine ($\frac{1}{4}$ to $\frac{1}{2}$ grain—16 to 32 mg.—hypodermically) should be given at once to relieve pain, and repeated every 30 minutes until relief is obtained.* Aminophyllin, 0.5 Gm. ($7\frac{1}{2}$ grains), should be given intravenously. If cyanosis and dyspnea appear, give oxygen.

After the pain and shock are relieved, the patient is still kept at absolute rest in bed for from 6 to 8 weeks and is given little medication (aminophyllin, 3 grains—0.2 Gm.—3 or 4 times a day, and sedatives in small, repeated doses, or a larger dose at bedtime).

When the sedimentation rate has returned to or near normal and become stationary (but not sooner than 6 or 8 weeks), the patient may gradually begin to resume some activities, but should not undertake full work for from 3 to 12 months.

Paroxysmal cardiac asthma generally occurs at night, is due to insufficiency of the right ventricle, and is set off by a "trigger"—cough, worry, etc.

Treatment: Prop the patient erect in bed or in a chair, give morphine promptly, and repeat the dose in 15 or 20 minutes if necessary (or give intravenously, as suggested—Ed.). If no relief is obtained, give 0.5 Gm. ($7\frac{1}{2}$ grains) of aminophyllin, intravenously, diluted in physiologic saline or 5-percent dextrose solution. This affects the heart and relieves bronchial spasm.

If the peripheral veins are dilated, venesection, removing from 200 to 300 cc. of blood, may be helpful; or the patient may be "bled into his peripheral vessels" by placing blood pressure cuffs high up on all four limbs and inflating them above the systolic pressure.

If digitalis or strophanthin is used at all, it should be given with great care, especially in auriculo-ventricular block.

Adams-Stokes syndrome is not common, but is recurrent. As the attacks are usually short, pro-

phylaxis is the best treatment. In an attack, epinephrine (from 0.25 to 1.0 cc. of a 1:1,000 solution) should be given intravenously, or even directly into the heart muscle, in extreme emergencies. This should be followed by epedrine, $\frac{3}{4}$ or $\frac{1}{2}$ grain (24 to 32 mg.), by mouth, every 3 or 4 hours.

Congestive heart failure should be treated by the generally accepted methods.

MIGRAINE

By Carl D. Camp, M.D., Ann Arbor, Mich.

Prof. of Neurol., Univ. of Mich., Sch. of Med.

THE best definition (or description) of migraine is: A malady characterized by recurrent attacks of headache (or pain in the abdomen or chest), with photophobia, diplopia, hemianopsia, nausea, vomiting, aphasia, hemiparesis, and other neurologic symptoms. The pain is often (but not always) unilateral; is of a throbbing or bursting type; returns periodically; and between attacks the patient feels well. If the pain is in the abdomen, many unnecessary operations are performed. Liebig, 67 years ago, called migraine a "nerve storm."

Fifth-nerve migrainoid is not accompanied by nausea and vomiting; and in true migraine there is no "trigger area," as there is in tic douloureux.

A constitutional tendency (demonstrably inherited in 75 percent of cases) is so generally present that, if attacks begin in mature life and there is no family history, the disease is probably not migraine.

Although there is, at present, no known cure for migraine, something may be done about the exciting stimuli, if each case is studied individually. Any cause of nerve tension or excitement may be an exciting factor, and it has been said that some cases are reflexes from physical irritation, but this has not been proved. Tobacco or certain particular alcoholic drinks (but not others) may set off attacks.

Allergy (if any) seems to be the only probable stimulus on a constitutional basis, but such cases call for a deep study of the history and for diet tests (not skin tests). We must remember, also, that allergy may vary under such conditions as cold, fatigue, hunger, menstruation, and certain mental states, such as conflicts and anxieties. Endocrine disorders (such as some premenstrual pituitary headaches) may be exciting factors, but these are not constitutional.

We must differentiate between migraine and hysterical headache, in which the pain is frontal or occipital, sharp or pressing, and clearly localized, as if a nail were being driven into the head ("clavus").

If toxic factors seem to be the exciting cause, they can sometimes be removed by giving a teaspoonful of magnesium sulfate, without water, before breakfast daily for 3 weeks; then twice a week; and, later, once a week. The patient should be alkalized and given 5 mg. of thiamin (vitamin B₁) daily, by mouth, or from 30 to 60 mg. intravenously, but this latter method is not so good. Do not give bromides or barbiturates.

For individual attacks, if there is any warning, inject Gynergen (ergotamine) at once. This is not so helpful after the attack starts, but the patient may dissolve from 3 to 6 tablets under the tongue.

Rest and quiet are essential. The patient must go to bed, in a dark room, as soon as the attack begins. Sodium salicylate relieves the pain better

*It is now recommended that 1 grain of morphine be dissolved in several cubic centimeters of water or physiologic salt solution and administered, slowly, by the intravenous route. The injection is stopped as soon as the pain is relieved, thus avoiding the waiting period to ascertain if the first dose was sufficient.—Ed.

than aspirin (acetosal). Amidopyrene is good, but some people are sensitive to it, and it must be given before the vomiting starts. Morphine is dangerous. It is worth while to try Gynergen.

PSYCHIC CAUSES OF GASTRO-INTESTINAL SYMPTOMS

By Walter C. Alvarez, M.D., F.A.C.P.,
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A HOUSEWIFE, 35 years old, who had had a "nervous breakdown" at the age of 19, had "pleurisy" (the pain may actually have been in the chest wall) after the birth of her first child, and felt "no good." She had headaches (which were probably migraine, as there were scotomas, vomiting, and other suggestive symptoms), dyspareunia, "indigestion," bloating, eructations, and occasional attacks of diarrhea. Her systolic blood pressure was from 90 to 100; her basal metabolic rate, minus 17; her fasting blood sugar, 80 mg. percent.

Her condition had been variously diagnosed as "mucous colitis," "hypotension," "hypothyroidism," "visceroposis," "nervous exhaustion," and various other conditions.

Let us consider these points in some detail.

Migraine is a condition that is not benefited by any known operation, because the disease is above the clavicle, and is the result of explosions from the cervical ganglia. The basic cause is psychic—*tenseness*; work under pressure. Physical laborers do not have it; it is seen in worriers.

In these cases, give Gynergen (ergotamine), hypodermically, as early in the attack as possible. It will help in 85 percent of cases. Give oxygen, by mask, for 3 or 4 hours; intravenous injections of Sodium Amytal; Nembutal, 3 grains (0.2 Gm.) by rectum (as a suppository). There is no use in trying to give anything by mouth in these cases.

"Nervous breakdowns" almost always occur in relatives of the insane—people who are not crazy, but "queer" (subject to phobias, obsessions, internal friction, and suchlike). Such patients should be sent to a psychiatrist. Typical constitutional inadequacies may have fine, strong, handsome bodies, not frail and sickly-looking ones.

All these people are afraid of something, and we must find out the cause of the fear (heart disease, cancer, open spaces, etc.), and find out why.

Most diarrheas (about 80 percent) are functional—no organic cause for them can be found. Periodic diarrheas are almost always due to fear or allergy—domestic troubles, business worries, or any sudden or unusual changes in circumstances that may cause excitement or uneasiness.

In these cases, especially in young women, give $\frac{1}{2}$ grain (32 mg.) of codeine or a teaspoonful (4 or 5 cc.) of paregoric, to quiet the bowel, before they go to a party, a "date," or any other exciting occasion.

"Mucous colitis" is a misnomer, because there is no inflammation. Do not give these patients diagnostic placebos, as these do irreparable damage. Explain the conditions to them. "Hypotension" and "hypothyroidism" are relative terms. A systolic blood pressure of 90 to 100; a basal metabolic rate of minus 17; or a blood-sugar reading of 80 mg. percent may have no pathologic significance, especially when only one or two tests have been made. It is bad enough to have a neurosis all over, but when it is fastened to one organ it is worse.

This woman was not truly hypothyroid, because thyroid extract made her worse ("jittery"); and she did not suffer from hyperinsulinism, because she did not have her worst times in the morning, when the blood sugar is lowest.

"Brucellosis" is not such a stylish diagnosis as it was a short time ago; "chronic appendicitis" and "focal infection" are dying out; "fever" (99.2° to 99.4° F. in the afternoon) is normal for some people. It is better to call it hyperthermia—their thermostats are merely too sensitive.

A diagnosis of "heart disease," made on the basis of one electrocardiogram, is bad! Such a verdict should be given only after a careful study of the history, and repeated tests. Moreover, there are no "mild" cases of "Addison's disease." If any adrenal cortex remains, the disease is not Addison's.

The person who has "nervous exhaustion" without doing any work, is "mildly insane"—may sit up all night trying to keep from jumping out of the window, for example. When you find goofy symptoms, watch for "relatives of the insane." We cannot make these patients strong and tough-minded (to do that we would have had to start with their grandparents), but we can help them, if we have enough sympathetic understanding and patience.

(To be Continued)

EDUCATION

If human ignorance consisted simply in a lack of information, our task as educators would be reduced to reciting clear-cut statements of fact which the ignorant would then learn, accept, and use. This is evidently not the case. What actually characterizes the process of education, sometimes more and sometimes less obviously, is a double procedure: first, we dispel the "knowing so many things that ain't so," and then, if this task be successfully completed, we embark upon the relatively simple business of imparting the new information. Frequently we encounter so many difficulties at the first stage that little or no time, strength, or opportunity is left for the second, and the battle for enlightenment is then temporarily lost or its victory postponed.—GREGORY ZILBOORG, in the Atlantic Monthly, June, 1937.

A Living for the Doctor

The Business of Medicine and the Art of Living

Make It So

THE echoes still ring joyously in our ears of the cheerful greetings, "Happy New Year," that we recently received from everyone we met, and that is well; but have you ever stopped to think whence the happiness of the New Year (if any) is to come? The fact of the matter is that, if you are to have any happiness, it must come from you.

We have only three things in this life—*time*, *thought*, and *action*: Time in which to think and act; thought to direct action; and action to make time and thought count for something. Actually, the only time we truly possess is *this moment*—the very stuff of our lives. If we fail to fill each moment worthily, life slips away from us to the exact extent of such neglect.

Too many of us merely "pass the time," or rather, let time pass us fruitlessly. How much of *your time*—*your life*—has dribbled away from you, to no purpose, during the past year? *That* was the material out of which you should have been fabricating a "Happy New Year!"

You would not hand over fifty (or ten, or even five) dollars of your hard-earned *money* to any Tom, Dick, or Harry who asked for it, nor let him squander it in ways that would bring no real profit to you or to him or to anyone else, even though you know that, if you are diligent and industrious, you can earn more money.

And yet you will permit any casual acquaintance, or even a stranger, to waste minutes or hours of your priceless *time* (life stuff) without giving the matter a thought, though there is no possible way for you to recover one moment of it, nor any method for adding to *your* store of this intangible, but utterly vital, commodity—for it is a commodity, because it can be bought and sold, in the form of labor; but we cannot buy one minute of it to add to our own supply.

However little cash you may have in the bank, you have as much *time* as anybody else, and no more; and you have as much power of thought and action as you have *earned* by *developing* these faculties. You are the only one who can use these wonderful gifts, and the *way* you use them will set the measure of your happiness and success. The

things a man "finds time" to do are the best index of his character.

Think on these things, remembering that, in a large sense, a new year begins every day. If you do this, perhaps you will join us in the hearty greeting we now offer you:

MAKE A HAPPY NEW YEAR

G.B.L.

Pathognomonic Symptoms

ONCE attempted to make a list of symptoms which were pathognomonic (diagnostic in themselves). Older clinicians based their practice on certain aphorisms and regarded certain signs or symptoms as being highly diagnostic. For example, they disposed of cases of long-continued fever by saying, "Any fever that lasts more than two weeks is typhoid." Hemoptysis was almost inevitably diagnosed as tuberculous in origin; lobar pneumonia was confidently diagnosed by the presence of fever, hyperpnea, and inspiratory movements of the nose; and pain in the stomach (epigastrium), which was relieved by food or sodium bicarbonate, was ascribed to a peptic ulcer or to hyperchlorhydria (this is a common diagnostic error today).

The list of pathognomonic symptoms shrank, as the light of modern knowledge was applied to it, until it was pitifully small. Even such an apparently clearcut entity as an apparent cerebral vascular accident with hemiplegia has been shown to be caused by brain tumor, rupture of an intracranial aneurysm, syphilis, and other pathologic processes.

John Homans writes, in "A Textbook of Surgery," these pertinent lines: "Since the various genital organs have a very limited number of responses to disease, any one symptom may represent a considerable number of pathologic states, some very dangerous and others relatively harmless."

Could not this same statement be made of any organ in the body (with the exception of the brain and spinal cord lesions which often give rise to localizing symptoms)? The lung involved by any

pathologic process (infection, cancer, foreign body) can respond only by cough, pain, or hemoptysis. The classic example of non-informative symptoms are those expressed by the stomach. Pain, nausea, or vomiting result from heart disease, gallbladder disease, appendicitis, and many other lesions outside the gastric wall.

Assuming a prior, known pathologic process, it is true that a later symptom may have definite

diagnostic value. The pneumonia patient, who is not well in two weeks, is frequently found to have an empyema developing; the one with suppurative appendicitis, who begins to pass mucus from the rectum, is liable to have a pelvic abscess (Hamilton Bailey), but the physician of today who places too much confidence in pathognomonic symptoms is apt to be wrong far oftener than he is right.

R. L. G.

★ Notes and Abstracts ★

Honest Confession

FROM frequent repetition, at my mother's knee, I memorized the aphorism, "Honest confession is good for the soul." As years went by its value grew, and I adopted it as a tenet in my way of life. To say, "I don't know," is not a crime; but to act without certain knowledge, either from egotism or ignorance, often borders on criminality.

I am seventy-four years old, and confession, at this late date, will neither mar nor make my reputation, but it may yet be good for my soul. Furthermore, and perhaps more valuable, it may cause some budding medicus to pause and *think*, before he acts.

Fifty years ago I performed my first minor surgical operation by enlarging the opening in a very redundant prepuce, with a disastrous cosmetic effect which any good seamstress might well have obviated, though several children, that came afterward, bore testimony that the usefulness of the organ had not been destroyed. Experience is a good school, though often tough on the other fellow. Self-confidence is a grand attribute, but don't be too sure of yourself.

I took a postgraduate course in Chicago, and came home full of ego and enthusiasm. The first thing I did was to circumcise an infant by removing the entire foreskin, not knowing that to leave half of it would be far more comforting to the patient in after life, and the result for which it was performed would be quite as satisfactory.

In those far-off days, country doctors pulled teeth. A young lad had been kept awake several nights by an aching tooth. There was a small cavity therein, so, with some difficulty, I extracted the offending member. It proved to be a first permanent molar, and never should have been removed from the jaw of a *growing* boy. It might well have been treated and saved for usefulness in both mastication and maxillary development. However, it did stop the toothache, and the boy did not know how ignorant the doctor was.

Two good friends of mine died, because I was too slow in recognizing a fulminant case of appendicitis and postponed operation. One such accident should have been enough for any one with the brains that God gave geese.

In 1891, a severe epidemic of "grippe" hit our little town. Four husky young bachelors lived in one room, and all were stricken. I had been taught that acetanilid would relieve such distress and act-

ing on the supposition that, if a little was good, more would be better, I dosed them liberally. I went back next morning and found two of them cyanosed and unable to get up. They all lived, but I discarded the drug for the far more expensive phenacetin, and had no further trouble. Mercenary motive, you see, for in those days, we were dispensers, and bought our own drugs.

These are just a few of my mistakes. Perhaps many more were covered with six feet of earth, as a mantle of sweet charity, and neither I nor anyone else ever discovered them.

With broken bones I had better luck, and was never harassed by a gross deformity going about as an advertisement of my ignorance. In obstetrics, I never lost a mother, but one father nearly died of fright.

Now I have cleared my conscience, somewhat, and I hope my soul will be more presentable to its Maker, but my main object is to cause some egotistical young tyro to "stop, look, and listen!" and not try to create a false impression by rushing in where angels fear to tread. The youth of today may have their problems, but they know nothing of the trials we "oldsters" have endured.

OSCAR ALLEN, M.D.

Rosemead, Calif.

The Problem of the Early Bird

"THAT fellow who just went out shouldn't be allowed to run at large," Doctor Medico averred.

"Why so?" the waiting patient demanded.

"He just gave me a check for an account that would be outlawed in a few months, and if he does that with all his creditors, some of them'll have heart failure," the doctor explained.

"Probably they'll have heart failure when they present the checks, if he pays all of them," the skeptical patient suggested.

"Well, the bank opens at 10 o'clock, the paying teller's around by 9:30, and they'll always let me in at the side door," the doctor announced; and at 9:45 the next morning he left the bank with his money in his pocket.

At 5 minutes to 10 the maker of the check served a stop-pay order on the bank, and the bank reported the matter to Doctor Medico.

"I've got my money, and you and your customer'll have to fight it out between you," the doctor stated.

The maker sued the bank and lost, on the ground that, where there is no statute law to the contrary, a bank may, if it wishes, pay a check before the regular hour fixed for the opening of the bank.

In a New York case along the same line, where there was no statute law on this point, a certain bank had passed a bylaw fixing an hour for the opening of the bank, but, notwithstanding this bylaw, the New York court ruled that the bank was justified in paying a check before the regular hour.

M. L. H.

Why Doctors Have Coronary Disease*

THE mortality from coronary disorders among physicians is so startling that this malady is often called, "the doctor's disease." This untimely loss of valuable lives is largely unnecessary, because these conditions can be prevented or postponed by taking reasonable precautions, which, unfortunately, many medical men *refuse or neglect to take*. Here is a fairly typical and illustrative history.

A 51-year-old physician presented himself for examination and advice for a rather typical angina of effort, of 2 or 3 year's duration. Although the objective findings were essentially negative, the character of the pain, its distribution, and its relationship to effort and stress, justified the diagnosis of coronary disease with angina of effort. A half-hour conference revealed the following errors of omission and commission, to which he was needlessly subjecting himself:

1. He had noted improvement following dietary restriction and coincidental weight loss a year previously. This he failed to heed and was enjoying a high-caloric diet, with large meals and an incidental regain of weight, and with aggravation of his anginal pains.
2. He failed to follow through the observation that curtailment of cigarette smoking had helped him appreciably during one extended period of time.
3. He had noted that long drives increased his attacks, yet he continued to make them, without thought of hiring a driver or making his extended journeys by railroad.
4. He was the tense type of motorist—he chafed at the bit at stop-and-go signs, and always drove up to a stop sign instead of coasting up to it. He had never practiced relaxed driving.
5. His garage situation was such that it entailed considerable manipulation to get his car out in the morning, which quite frequently resulted in bringing on an anginal pain, but he never thought of leaving his car in the driveway over night. In other words, he gave more thought to his car than to his heart.
6. He was a high-strung type of individual, who over-reacted to circumstances. He admitted that a triple bromide tablet, which he had occasion to take on 2 or 3 occasions, seemed to smooth out the day for him and diminished the number of attacks. Yet he never thought of taking a mild sedative regularly.

7. He volunteered the statement that he wished the week contained more Sundays, because he stayed in bed an hour later on Sunday and that seemed to improve the situation, in spite of the fact that the day would often entail considerable work. Confronted with his disease, how logical it would have been for him to *make more "Sundays"* for himself, by changing the routine of his life to include a longer rest in the morning. *In other words he lived well but not wisely.*

This emphasizes the importance of halting the "all-out" activity of the average physician, after he has acquired the anginal syndrome, as well as indicating the rationale of an attenuated program as middle life approaches, in an effort to prevent coronary disease.

It would seem logical to make a survey of the social, vocational, and emotional life of physicians, and make such adjustments as would appear rational in the interest of their coronary welfare.

O. P. J. FALK, M.D., F.A.C.P.

St. Louis, Mo.

The Surgeon

GREATNESS is a quality of labor, superinduced on a God-given brain.

I recently spent a week studying surgery under a great surgeon. During that week he built up a series of lectures and demonstrations to a climax—a certain operation perfected by himself. Hour after hour he lectured on the anatomy, physiology, and pathology of the gallbladder and its related structures. Then came the hour of the operation—the masterpiece. The stage was set, the audience seated, there stood the surgeon.

The operation began. All were expectant, listening, watching every movement of the master at work.

And then came these electric words, "Gentlemen, I cannot do the operation you came to see—the operation I have been lecturing to you about all this week. It would endanger the life of the patient!"

This true surgeon and gentleman thought more of the life of his patient than of the demonstration that would show his own greatness. He knew when to stop! That is surgery of the highest type—the type we should all strive for.

Today, almost every medical graduate wants to do surgery, as if being a good physician were something to be sneered at. Yes, he is going to be a surgeon—perhaps.

Surgical skill and judgment are not things that can be had for the mere asking or self-determining. They depend, first, on God-given ability to handle tools and a brain that can remember, think, and create—a brain that can tell one what to do, how to do it, and when *not* to do it or when to stop, because, "To go on, gentlemen, would endanger the life of the patient."

No university can make a surgeon in four years; no internship can make a surgeon; no residency can make a surgeon. Surgery comes from experience—an acquired ability to *judge* and to *reason*—plus an ability to handle tools. And without a God-given brain to do these things, there can be no surgery. Only God can make a surgeon.

A. HELMBOLD, M.D.

Cincinnati, O.

*III. St. M. J., Aug., 1941.



Problem No. 10—1941 (Diagnostic)

Presented by R. E. Mullarkey, M.D.,
Seattle, Wash.

(See CLIN. MED., Nov., 1941, page 285)

RECAPITULATION: A married woman of 36 years, who had been well for a year except for nervousness, tiredness, and constipation so severe as to require the regular use of laxatives and enemas, and whose menses had been regular and normal, complained of nausea, vomiting, and pelvic pain.

Examination: She was thin, toxic, and in distress; temperature, 101°F.; pulse, 110. Physical examination showed no abnormality except tenderness and moderate rigidity in the lower left abdominal quadrant; an exquisitely tender mass in the left pelvis; and hard fecal masses in the rectum and descending colon. A blood-cell count showed 23,000 leukocytes, with 92 percent polymorphonuclears. Smears from the cervix showed no pathologic organisms; her urine was normal.

Requirements: State your diagnosis and treatment, giving reasons.

Discussion by W. B. Palmer, M.D.,
Furman, Ala.

This patient's blood picture showed a disturbed condition somewhere in the body. The local symptoms seemingly justified a tentative diagnosis of tubo-ovarian abscess, but as doubt existed, a systematic examination must have been carried out.

In or near the area under discussion there could be: pyosalpinx; tubo-ovarian abscess; extra-uterine pregnancy, with or without the occurrence of rupture; a cystic ovary twisted on its pedicle; and many other conditions. However, some of these do not show a blood picture such as this patient showed. In obscure cases, the possibility of actinomycosis or lymphogranuloma of the ovary should not be overlooked, as the blood picture and symptoms of the latter are strikingly in harmony with those of this patient. If the primary lesion is inside of the vagina proper it is easily overlooked; only the higher or deeper pelvic nodes are involved. The Frei test is decisive for diagnosis.

A negative urinalysis does not eliminate the possibility of involvement of some part of the urinary system.

Apparently the intestinal tract deserved first consideration, after the first diagnosis became doubtful. Impacted fecal masses can crowd behind a left broad ligament into the pelvis, and if these masses are excessive, they can push behind both broad ligaments, filling the pelvic floor. Exquisite tenderness in a fornix is common. Some-

The Seminar

Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussions of any or all problems. Discussions should reach this office by the 5th of the month following the appearance of the problem. Send your problems and discussions to The Seminar Dept. care CLINICAL MEDICINE, Waukegan, Ill.

times the outline of fecal masses can be traced above the pelvis, and they are freely movable, on account of a long mesosigmoid. There is a putty-like feeling to them, and often an inflammatory reaction.

A long, inflamed appendix is sometimes found in Douglas' cul-de-sac.

Skin hyperesthesia, in doubtful cases, deserves consideration. We are all familiar with Head's zones. In 60 percent of cases of salpingitis, skin hyperesthesia exists from the beginning. In appendicitis there is delay. The pain of appendicitis is sometimes manifest on the left side. The uterus and the ovary have separate nerve supplies. The sympathetic takes care of the ovary. The pain caused by pressure upon the tiny nerve fibers outside of the theca is different from that of uterine lesions, made evident, subjectively, through the presacral nerves. Ovarian pain often radiates down the inner surface of the thigh.

A probable diagnosis: Fecal masses or some obstruction in the sigmoid or rectum.

Discussion by A. E. McMahon, M.D.,
Menomonie, Wis.

The history and the findings of the physical and laboratory examinations, indicate that a *tubo-ovarian abscess* is, in all probability, the correct diagnosis.

However, the history omits much important information, especially concerning the patient's marital life. One would wish to know how many, if any, children she has had, their ages, and the character of her labor; any abortions, and if so, whether any complications ensued, their nature and duration, and when the last abortion occurred; any leukorrhea, and if so, the character of the discharge, duration, and treatment.

Concerning her past history, inquiry should be made as to the occurrence of any attacks similar to the present one, with their number, severity, and duration; and whether or not she has had any operations.

The time relationship of abdominal pain, nausea, and vomiting should be definitely stated. It is of importance in the diagnosis of acute appendicitis, a condition which should be kept in mind in the differential diagnosis of nearly all intra-abdominal lesions.

The diagnosis of a left tubo-ovarian abscess is, I think, correct. In the differential diagnosis one would need to consider (1) diverticulitis of the sigmoid, with perforation and abscess formation; (2) ovarian cyst, with torsion of the pedicle; and (3) appendicitis, with perforation and abscess.

That the patient's trouble is of an acute inflammatory nature, probably also suppurative, is indicated by the presence of fever, pain, tenderness, and the rather high leukocyte count, with the marked increase in neutrophils. This fact pretty

well excludes an ovarian cyst with torsion of the pedicle, and a red blood-cell sedimentation rate determination would help to differentiate still further, since it is usually normal in cysts or non-inflammatory conditions, and is greatly speeded up in acute suppurative processes.

Appendiceal abscess is not usually found in the pelvis and on the left side, but it could happen. However, the patient was described as having a toxic appearance, and furthermore, she was seen six hours after the onset of her pain—not sufficient time for an appendix to have perforated and an abscess to have formed. Her toxic appearance indicates a chronic disorder with an acute exacerbation. This description could fit diverticulitis, but there could hardly have failed to be previous episodes of abdominal pain, and of digestive disturbances, in such a condition.

Treatment should be conservative. The patient should be hospitalized; the fluid and electrolyte balance restored; morphine given in adequate doses to control pain; sulfathiazole in adequate doses; local application of heat to the abdomen; and hot saline douches, gently given.

The hemoglobin, red blood cells, and white blood cells must be watched; the level of blood sulfathiazole should be determined frequently; and the urinary output should be kept at 1200 cc. or more in 24 hours.

This patient may require surgical intervention later on, but it should not be undertaken until the sedimentation rate is normal or as near normal as it will go.

The only condition which would warrant immediate operation would be acute intestinal obstruction, which might develop as a result of kinking, or constriction of a loop of bowel in the inflammatory exudate. Should this condition develop, operation still should be deferred for a few hours, during which the patient's fluid balance should be restored and intestinal decompression begun by means of the Wangenstein apparatus. These measures should be continued postoperatively, also.

Discussion by Dr. John Walton Drew Quakertown, Pa.

The history and physical findings in this case point to a condition outside of the uterus, and also exclude any gastro-intestinal condition which might have been responsible for the complaints. The past menstrual history is negative.

My diagnosis is an *extra-uterine* (sub-serous) *fibroid* with a twisted pedicle. The presence of this fibroid could cause nervousness and exhaustion. The treatment is surgical.

Discussion by L. E. Williams, M.D., Kansas City, Mo.

In this case of so-called "acute abdomen," several conditions must be considered and eliminated, the final diagnosis often being made only by a laparotomy.

The high fever and leukocytosis are unusual for the onset of acute appendicitis, and the pelvic findings tend to eliminate all right-side pathoses. We must, therefore, seek to find the cause on the left side. While the urinalysis and the microscopic

findings are inconsistent with disease of the left ureter and a left pyosalpinx, a ruptured follicular cyst can not be excluded. A twisted pedicle of an ovarian cyst may be discounted, on the basis of the fever and leukocytosis.

Megacolon, with a ruptured stercoral ulcer, is suggested by the history of chronic constipation, the presence of hard feces in the sigmoid colon and, failure of an enema to remove it.

The history of wellbeing in this married woman, who was nervous and felt exhausted; the attack of acute abdominal pain predominating in the left pelvis; the presence of a mass in the left pelvis; and exquisite tenderness in the left fornix, accompanied by fever and leukocytosis, even in the absence of amenorrhea, lead me to make a tentative diagnosis of a *ruptured ectopic pregnancy*.

Discussion by R. de R. Barondes, M.D., Los Angeles, Calif.

One camouflaged statement here sets one to wondering what, in the first instance, was the causative factor back of the exhaustion extending over a period of one year, in a patient otherwise in good health (?) except for nervousness and marked constipation.

The history of constipation and frequent resort to laxatives and enemas, along with the findings of the examining physician of feeling fecal masses in the descending colon and the presence of hard feces in the rectum, which could not be emptied satisfactorily by soapsuds injections, lead one to suspect a mechanical or organic complication, masked by the acute toxemic symptoms of infection.

From the acute symptoms alone, nothing occurs to contradict tentative diagnoses of tubo-ovarian and adnexal infection, torsion of the oviduct, parametrial abscess, inflammation between the folds of the broad ligament, pelvic peritonitis, or left-side appendicitis (though no history is given of preceding pain in the upper left quadrant or navel). There is nothing in the history to suggest kidney, bladder, or intra-uterine involvement.

This case recalls to my mind a somewhat similar one, where the main complaint was of obstipation. This patient would go as long as 28 days without an evacuation, at times suffering fever, nausea, exhaustion, and lower abdominal pain, simulating threatened ileus or bowel perforation. No blood study was made during these attacks, but it would be quite doubtful if a leukocyte count, in her case, would have approached anywhere near the high count of 23,000, in this problem. A rectal examination revealed a *fecal impaction* the size of a grapefruit.

One should never make a series of roentgenograms on a patient complaining of going for days without a bowel movement, as the barium meal will only aggravate an existing bowel impaction, and easily lead to paralysis of the bowel above the impaction. This patient was relieved by dilating the sphincter ani and removing the impacted fecal mass manually.

To what measures one may have to resort to relieve such patients, is best illustrated in the heroic "anal drama," as enacted by Dr. Morris Price, of London, and reported by him in the *British Medical Journal* (II, p. 1211, 1886).

This was a woman patient, age 24 years, who complained of indigestion, nervous exhaustion, occasional vomiting, and bowel irregularity over a

period of years. Examination revealed large, nodule, movable tumors occupying the left abdominal cavity. The rectum was examined and found to be tremendously distended and packed full of dry, earthy fecal matter. So much was the rectum distended that an infant at full term could have easily passed through it.

The doctor, using plenty of soap and water, dug away at the mass with his fingers for a considerable time, finding that the hard stool was gradually descending as it was removed from below. Finally the bowel was completely emptied and patient was discharged.

Eighteen months later this case of megacolon was back in the same state and the same treatment was repeated, but not with the same success, as the large, hard fecal mass in the sigmoid flexure would not descend into the pelvis. Enemas were of no avail and symptoms of complete bowel obstruction soon followed, shown by a toxic state, abdominal distress, and vomiting of every meal taken. Dr. Price deliberated long over this case, and here is his solution, in his own words: "I got the idea of introducing my hand into the lower bowel and pushing it up as far as possible, with the intention of removing the obstructing material. Not being able to dilate the sphincter ani satisfactorily, I divided the whole structure back to the coccyx. An assistant passed a long tube into the rectum along my wrist and indwelling hand, and through this tube warm soap water was passed. At the top of the pelvis I came across the big mass I had so often sought for and vainly attempted to remove, and, grasping it now, I could easily crush and withdraw it. After re-introducing the arm, I found that the colon was one tremendously distended chamber and, with my whole arm introduced, up to the axilla, I could investigate and manipulate every part of the abdominal cavity, with the other hand aiding externally. In the neighborhood of the right iliac fossa, I found an opening about 1½ inches long, with a well-defined margin. This also was plugged with a lump of hard fecal matter, which was also crushed and removed. What this opening was, unless it was the ileo-cecal valve, I am at a loss to know."

Discussion by S. Sabourin, M.D., Bonnyville, Alberta, Can.

At first sight, the symptoms and physical findings present a picture of *stercoraria*—a history of severe constipation for a year; abdominal tenderness, more marked on the left side; and fecal masses in the descending colon, and felt even in the rectum. The mass might have been in the process of formation for some time, even with the bowels moving a little every day. Such a mass would finally produce a more or less complete obstruction, likely to be felt by vaginal examination in the left fornix.

By the history of the case, I infer that the attack was sudden. Evacuation of the descending colon is imperative, either with castor oil, or olive oil or glycerin by enema.

No details are given on the mobility of the mass, or whether it is separated from the uterus or not. Further pelvic examination should be made after emptying the large bowel. If the mass is still there, and still tender, a torsion of a large cystic ovary is my diagnosis; and then, of course, the problem becomes surgical.

Solution by Dr. Mullarkey*

Colonic irrigations were given three times daily for 3 days, when it was noted that the tumor mass was gone. The patient's temperature was normal on the fourth day, and she was discharged cured on the fifth day.

The presence of firm or hard fecal masses may be the sole cause of nausea, vomiting, pain, tenderness, and abdominal distention. At the site of impaction, an area of hyperacute or suppurative colitis may develop, resulting in point tenderness, toxemia, fever, rigidity, and leukocytosis.

Colon stasis or obstruction may vary from delayed passing of the stool to complete obstruction of the bowel by fecal masses of stony hardness. Fecal impaction is only an extreme degree of constipation, in which fecal masses, by their size, consistency, and location, fail to move downward in the bowel. Cathartics may cause liquid feces and gas to pass impactions, just as rocks in the bed of a river are frequently little affected by the stream.

Problem No. 1—1942 (Diagnostic)†

Presented by A. W. Diddle, M.D.,
Iowa City, Iowa

A GIRL of 15 years was operated upon, after suffering right-side abdominal pain for 24 hours. No history could be obtained, as the surgeon had moved away. She stated that pus had drained from the right lower quadrant incision for 10 days. The type of pain, as described, resembled that of appendicitis, and the deduction was made that a ruptured appendiceal abscess had been drained.

Three weeks later, a similar pain appeared while she was menstruating. Fever (101.5°F.) and localized tenderness were present when she was admitted to the hospital, 36 hours after the onset of pain. Her leukocyte count was 13,500. The pain began in the epigastrium and gradually localized in the right lower quadrant, was sharp and colicky at first, and then became steady and aching. Her general condition was good. The tenderness was sharp and localized near McBurney's point.

She was operated upon and an abscess found between the skin and the rectus sheath, which was drained. Smears showed the presence of *Staphylococcus aureus*.

After recovering, she was thoroughly studied as to the cause of the right-lower-quadrant pain, but no definite diagnosis was made. Her temperature was normal and her leukocyte count, physical examination, and several urinalyses showed no pathologic changes. Colon roentgenograms visualized four inches of the appendix, and the radiologist felt that it was normal. Renal roentgenograms were normal.

One month later she had a similar attack, with fever of 101°F. and colicky, right-lower-quadrant pain while menstruating. After 3 days, she was admitted to the hospital. At this time, there was definite right-lower-quadrant rigidity and tenderness, and an indefinite mass could be palpated there. Laparotomy was performed.

Requirements: State your tentative diagnosis, giving reasons. What further studies would you have made?

*Adapted from *Northw. Med.*, Apr. 1941.

†Adapted from a postgraduate course in Gynecology and obstetrics, University of Iowa.



Rectification of Alternating Currents by Living Tissues

EVER since the employment of radio fields for diathermy, especially for pyrexial therapy, the preponderance of authority has maintained that the only demonstrable effects of these treatments were ascribable to heating. A few serious students, however, have declared that there are other effects, more or less closely connected with wavelength, which are obscured by the heating effects as a natural result of the very high wattage of the treatment fields. These contentions have already been brought to the attention of readers of CLINICAL MEDICINE.^{1,2}

Thirteen years ago, in 1928, Hallberg prophesied that, at some future time, proof would be forthcoming that certain cell membranes could act as crystal rectifiers of high-frequency alternating electromagnetic impulses.

The "Nagler Effect," revealed by its discoverer in 1937 to the International Congress on Ultrashort-wave Therapy, in Vienna, demonstrated the rectification of ultrashort-wave radio impulses by rarified gases in sealed glass tubes. Hallberg later showed that the polarity could be reversed merely by changing the wavelength in the range between 2.5 and 5 meters. What is more to the point, he demonstrated, in the laboratory of Prof. Burr, at Yale University, that he could reverse the polarity in a human being, using Prof. Burr's microvolt meter and nonpolarizable electrodes, the subject being merely in the radio field. The radio apparatus used had a strength of only five watts.

That living tissues can act as crystal rectifiers has been demonstrated by the experiments of Ebbecke, on a frog nerve, by Cole and Curtis,⁴ by Cole and Baker⁵ on a squid axon, and recently by Guttman,⁶ who reported to the Federation of American Societies for Experimental Biology (April, 1941) that the neuraxon of a living cuttle-

fish would rectify alternating currents, *provided the imposed voltage did not exceed a certain limit*. Dead neuraxons, she found, acted merely as resistances.

The reason for this rectification lay in the possession of a *normal voltage of function*, which makes it clear why an imposed voltage exceeding that of the nerve would prevent rectification, and explains why fields measured in kilowatts were not rectified, while the weaker fields, measured in watts, were.

A long clinical experience has shown the sedative and pain-relieving properties of weak and brief treatments, which were relatively athermal in effect.

Rectification implies polarity, which in turn implies polarity effects which are dissimilar and antithetic. Since even slight changes in *pH* exert far-reaching biologic effects, it stands to reason that, if we desire to obtain polarity effects, we must not use powerful fields which obliterate them.

FRANK THOMAS WOODBURY, M.D.

New Rochelle, N. Y.

Oral Vaccine in Colds

SEVERAL reports have shown that "cold" or coryza antigens, given by mouth, will produce a marked decrease in the number and severity of upper respiratory infections in groups of persons so treated; and our own studies have confirmed these results. In fact, the effect of such vaccines given by mouth was better than that of similar preparations given parenterally. Our best results followed the use of an enteric-coated, water-soluble bacterial extract known as Vacagen,^{*} with which we have also had notable success in the *treatment* of colds, in the early stages.

For *immunization*, it is recommended that one tablet be taken daily, about 30 minutes before breakfast, for 7 days, and then three tablets weekly for at least 4 weeks—preferably for 3 months.

For *treatment*, two tablets are to be taken 30 minutes before each meal and two just before retiring (8 tablets a day), until at least 10 tablets have been taken. If the patient is not much better

^{*}Manufactured by Sharp and Dohme.

1. Woodbury, F. T., and Hallberg, J. H.: CLIN. MED. AND SURG., Feb., 1936, pp. 82-87.

2. Woodbury, F. T.: CLIN. MED. AND SURG., Jan., 1939, pp. 33-35.

3. Hallberg, J. H.: Phys. Ther., January, 1929.

4. Cole, K. S., and Curtis, H.: J. Gen. Physiol., March, 1941, p. 551.

5. Cole, K. S., and Baker, R. F.: J. Gen. Physiol., March, 1941, p. 535.

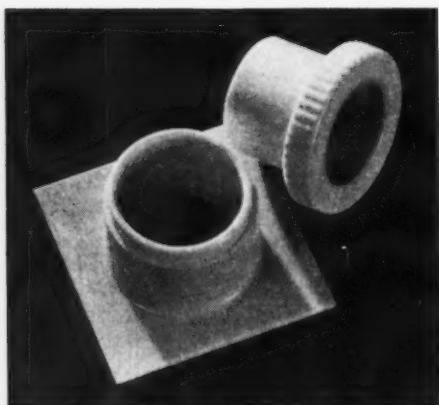
6. Cole, K. S.: J. Gen. Physiol., Sept., 1941, p. 25.

^{*}Guttman's report will appear in the *Proceed. Soc. Exper. Biol. and Med.* early in 1942.

after taking 10 tablets, 10 more may be taken, but this is rarely necessary if the treatment is successful in any particular case.—DRS. MAXWELL R. PALMER and JEROME E. ANDES, in *Southwest. Med.*, May, 1941.

Surgical Window

A SURGICAL window, made of Plaskon, has been developed and perfected by the staff of the American Hospital, in Britain.



Courtesy Modern Plastics Competition.

Fig. 1: Plaskon surgical window.

The unit (see Fig. 1) resembles a cylinder, with a cup which telescopes into it and is held in place by a lip which fits snugly over the top of the cylinder, making the entire unit airtight when shut. It is being used currently in Britain to observe the effects of sulfanilamide and sulfathiazole as a treatment for bomb wounds.

The development of this surgical aid makes it possible for surgeons to study the progress of a wound while it is under treatment, without disturbing the dressing and without changing the conditions under which the wound is being treated. Before the use of this new aid, the wound was treated with sulfathiazole and tightly wrapped in a plaster cast, so that the doctors could only theorize about the progress of the cure. Now, when the surgeon wishes to take a culture or inspect the wound, he can do so, simply and easily, by removing the cup and observing the exposed section of the wound.

Plastics only could be used for this vital application, and Plaskon was selected because it is chemically inert, unbreakable, a non-conductor of heat or cold, and can be readily sterilized. Neither metal, glass, nor wood combined all these properties.

Prostigmin in Postoperative Distention

POSTOPERATIVE abdominal distention is a common occurrence, even in the practice of skilled surgeons, and is even more common when the intestines have been handled roughly or exposed to the air for long periods.

Distention must be distinguished from intestinal

obstruction. The former develops within from 24 to 48 hours after operation; the latter, several days later.

Distention should be recognized and treated early, to relieve the patient and prevent the development of paralytic ileus.

The use of Prostigmin, preoperatively (for prophylaxis) and postoperatively (for treatment), in 96 cases, greatly reduced in incidence of abdominal distention, was effective in preventing paralytic ileus, and caused no untoward effects. The results were much better when the drug was given before, as well as after operation.

For prophylaxis, a 1:4,000 solution (0.25 mg. per cc.) was used, and for treatment a 1:2,000 solution (0.5 mg. per cc.). Best results were obtained by giving 1 cc. of the 1:4,000 solution shortly before operation, and 1 cc. of the 1:2,000 solution immediately after, followed by a similar dose every 3 hours for 6 doses.—DRS. I. TRACTENBERG and WILLIAM OLIVER, in *A. J. Surg.*, Aug., 1941.

Maintaining a Mother's Milk Supply

THE desirability of nourishing a baby on human milk is universally conceded, but it is too frequently true that the baby will not nurse the mother's normal nipple; and, very often, before the baby has passed its first month, the mother's breast secretion has ceased or become inadequate and the baby must begin its life on an inferior diet.

The baby's impulse to nurse is usually present and its failure can, justly, be laid at the door of the nurse in charge of the baby's first week of life. When the colostrum does not supply enough fluid for the needs of the baby, water or supplementary food is given through a rubber nipple, for convenience, and the baby easily learns to nurse that kind of nipple, which offers no obstruction to its respiration, as does the mother's breast.

The baby, having learned to appreciate the ease of the false nipple, refuses to nurse the mother's nipple. If it takes the natural nipple at all, it is with indifference, drawing very little milk and swallowing seldom. The starving baby becomes sleepless and restless, cries much, and loses weight. The mother's breasts, not being emptied, fail to fill, so that resort must be made to other food, and we have the bottle baby.

If, in the first days of life, the nurse had given water or food with a dropper or spoon, instead of the rubber nipple, the baby would have nursed the mother's nipple in the normal manner.

The failure of the mother's breasts to secrete may be due to the failure of the baby to nurse, and there may be other causes of failure.

The breasts will secrete little milk unless there be sufficient body fluid available out of which milk may be made. The bovine mother is provided with a reticulum—a sort of sponge for the retention of water. At the nursing time for the calf or the milking time in the dairy, the reticulum yields its stored water for the production of milk, for which the cow is famous. The reticulum is a special development in the cow, that has no counterpart in the human economy.

A third of a century has passed since an exceptionally intelligent mother, whose breast milk had twice ceased in the first month after the birth of her first and second babies, ten and four years before, observed and remarked that, when her

third baby, a few days old, took hold of the nipple to nurse, she had a sudden and momentary thirst, which quickly disappeared. Her obstetrician regarded that thirst as significant and ordered the mother to drink a glass of water before and more during the nursing period. I have found that a glass of water just before putting the baby to the breast, and about two more during the nursing, has proved sufficient for an ample milk supply. In the subsequent years, this method has never failed to maintain a sufficient milk supply. Intelligence in the use of drinking water must make up for the lack of the bovine reticulum.

Failure in the milk supply may result if the mother is hungry during the nursing time. She must have food the very instant any of the many signs of hunger appear, for otherwise the nursing baby will exhaust the mother, who cannot spare the nutriment for the baby, and breast failure will result.

Disregard of the mother's impulse to nurse the baby when its scheduled nursing time has not arrived, may cause breast failure.

Thwarting the infant's impulse to nurse when hungry may impair its appetite, so that it will not nurse vigorously enough to be nourished and to empty the breast. Nursing the baby on its demand is good for both the baby and its mother.

This method is a program. If every part be observed, there should be fewer bottle babies.

ARCHIBALD J. ALCORN, M.D.

Chicago, Ill.

Continuous Spinal Anesthesia

CONTINUOUS spinal anesthesia offers all the advantages of ordinary spinal anesthesia, including perfect relaxation, without its dangers. A flexible needle is left in the subarachnoid space and small amounts of procaine are injected every 30 minutes, as needed. There were no deaths or severe complications in 500 surgical procedures, chiefly stomach and intestinal operations.—W. T. LEMMON, M.D., in *Penn. Med. J.*, May, 1941.

[This method is now being used by many institutions, notably the Mayo Clinic, and will soon be widely adopted. Any surgeon who has used spinal anesthesia has enjoyed the facility of working upon collapsed intestines, but heretofore has worried about its possible dangers. With this method, procaine can be given as it is needed and can be withdrawn when no more is needed, thus making it even safer than ether.—ED.]

Sulfonamides and Blood Viscosity

THE sulfonamides restore hydrogen to the protein particles of the blood, when they are dehydrated by the attacks of bacteria; but too much of these drugs causes over-hydration or solvation, so their effects must be carefully watched.

Those who have access to a viscosimeter can make tests readily. As long as the blood viscosity is below 1.75, the patient is safe, but if it goes above that figure, the administration of sulfa drugs should be stopped at once.

FLORIMOND LE BLANC, M.D.

Chicago, Ill.

Plastic Cups for Arthritic Hip Joints

CLEAR, transparent, plastic cups for arthritic hip joints, developed by Dr. Paul H. Harmon, of the Robert Packer Hospital, Sayre, Pa., from duPont's Lucite (see Fig. 1), received honorable mention in the scientific classification of the Sixth Annual Modern Plastics Competition.



Courtesy Modern Plastics Competition.

Fig. 1: Lucite cups, showing various sizes.

These cups, which are already in use in hospitals of such established repute as the Robert Packer Hospital and the Mayo Clinic, appear to be of great importance in the treatment of arthritic hip joints. Relief from pain is almost immediate after the surgical operation at which the hip is remodeled and a plastic hemisphere placed in the reconstructed joint, replacing the worn and diseased cartilage and acting as a cushion within the joint. Smaller cups have had a limited trial for arthritis of certain of the joints of the hand, but these appear to be the only joints to which the method is applicable. Their value is partly in the fact of their being clearly transparent, so that the surgeon may determine the status of the joint by x-rays at any time after the insertion of the cups, and watch the progress of the treatment.

Excretory Urography in Children

THE dye for intravenous urography should be given in doses of 10 cc. for infants under six months of age; 15 cc. for those between six months and two years; 20 cc. for those between 2 and 5 years; and 25 cc. for those over five years of age.

The injection is made with the infant lying prone or on the right side. These positions render the technic more difficult than if the patient is held on the back, but are necessary if the urinary tract is not to be obscured by swallowed air. A hypodermic needle is used, and the injection is given in the scalp veins or those on the dorsum of the hand or foot. The infant should be swathed snugly with a sheet, to prevent movement. A small amount, usually 0.5 cc., of the intravenous dye (Diodrast) is injected, followed by a pause of one minute, during which the patient is watched for any untoward reaction. If no reaction occurs, the remainder of the dye is given over a period of one or two minutes.

Subcutaneous Dye Injection: Twenty (20) cc. of the dye may be diluted with 80 cc. of physiologic saline solution, and 50 cc. of the combination injected subcutaneously over each scapula. Films are then taken at intervals of 10, 20, and 30 minutes.

Air in the small bowel: Infants swallow much air, which readily passes into the small intestine. To avoid this, films are taken with the patient upright (held by the arms and thighs), on the right side, or prone, with the head slightly elevated. The patient should not be on the left side or in the supine position, even for a minute, for 12 hours before taking the roentgenograms.

Fluid restriction: Older children and adults should drink little water during the 12 hours preceding roentgenography. Relatively heavy doses of Diodrast are used in infants to give good concentration of dye.—G. M. WYATT, M.D., in *Radiol.*, June, 1941.

Low Back Pain*

Low back pain may be caused by any one of these conditions, or by several combined:

I. Localized pain

1. Lumbosacral joint area

A. Mechanical:

- a. Postural strain.
- b. Trauma.
- c. Congenital anomalies (?).

B. Infectious.

- a. Arthritis.
- b. Osteomyelitis.
- c. Tuberculosis.

C. Neoplasms.

2. Sacroiliac joint area

A. Mechanical:

- a. Postural.
- b. Trauma (pregnancy).

B. Infectious.

C. Neoplasms, primary or metastatic.

3. Muscles, ligaments, fascia

A. Mechanical—postural strain or injury.

B. Infectious.

C. Neoplasms, as lipoma or fibromatosis.

4. Intervertebral disk lesions, from postural strain or injury.

II. Referred pain

1. Neurologic lesions

A. Mechanical—cord tumors.

B. Infectious—intraspinal infections.

C. Neoplasms.

D. Functional—hysteria.

2. Visceral

A. Abdominal.

- a. Mechanical—inguinal hernia.
- b. Infectious—appendicitis.
- c. Intestinal inflammations.
- d. Neoplasms.

B. Genitourinary.

- a. Mechanical—stone.
- b. Infectious.
- c. Neoplasm.

C. Pelvic

- a. Mechanical—retroversion.
- b. Infectious—cervicitis, salpingitis.
- c. Neoplasm—ovarian cyst, etc.

Clinical Pointers

Visceral infection, either pelvic or abdominal, usually refers pain to the lower and middle portions of the sacrum. In prostatic or rectal involvement, the pain is referred to the floor of the pelvis, and in kidney disease to the groin.

**Arch. Phys. Ther.*, Aug., 1941.

When the skeleton or supporting muscles or ligaments are involved, the pain is usually in the sacroiliac joint, the lumbosacral joint, or the posterior spine of the ilium. In such cases, the pain is usually radiated down the posterior aspect of the thigh to the knee or heel.

History: A slight trauma, such as swinging a golf club or making a misstep, may tear a muscle, rupture a ligament, or injure a bony facet. If a fall has occurred in a sitting position, suspect coccygeal injury or intervertebral disk damage. Sharp flexion of the back may result in disk injury.

In cases of chronic backache without a history of injury, a narrowed space may be found between the last lumbar vertebra and the sacrum, due to poor posture which permits excessive wear on the posterior portion of the disk with a settling of the facets.

P. M. GIRARD, M.D.

Dallas, Texas.

Plantar Warts

WARTS are probably due to a virus infection, and are always unsightly, but when they appear on the feet they may cause severe disability, and almost always require treatment.

Sometimes plantar warts (like those in other locations) disappear spontaneously, for no known reason; sometimes they can be relieved by changing the type of shoes worn, or the material of a patient's stockings; occasionally by daily massaging with castor oil; but most cases need more vigorous treatment, which may be decidedly varied and somewhat uncertain.

Caustic applications* are frequently successful; three or four daily, warm whirlpool baths, lasting from 30 minutes to an hour, will sometimes cause the warts to extrude, so that they can be picked out with tweezers; x-rays or radium have given good results in some cases, but no one method will cure all cases. If the one first employed does not succeed fairly promptly, it is better to try one of the others than to keep on with one that does not work.

If radiation treatment is used, every physician who employs it should make a careful record of the amount of x-ray or radium energy applied, and give the patient a copy of it, so that, if he consults another doctor who recommends such treatment, the second (or third, or later) man may know how much the patient has previously received, and thus avoid the embarrassment of causing a burn by overdoses.—IRVING S. CUTTER, M.D., in *Chicago Tribune* (Health Column).

*Bichloroacetic acid has a good record.—Ed.

[In some cases, thorough applications of tincture of Metaphen, once or twice a day, for several days or weeks, will remove warts.—Ed.]

CLINICAL MEDICINE, and have found it to be one of the most helpful magazines I ever received. *The Seminar* is very practical and instructive. For one like me, who is living in a distant town, it takes, to some extent, the place of a post-graduate course, with negligible expense.—G. M. R., M.D., P. I.

Routine Examination of the Cervix

EARLY cancer of the endocervix cannot be seen or felt, and is usually unsuspected until it breaks down. A bloody, slightly odorous discharge then appears. If the cervical canal is plugged with fragments of cancerous tissue long enough, pyometra develops, finally expels the obstruction, and appears as a sudden gush of foul pus.

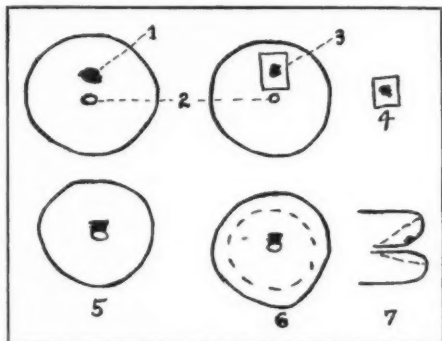


Fig. 1: Biopsy technic: (1) Small lesion on the cervix; (2) external os; (3) excision of a block of normal tissue (4), including the lesion; (5) small lesion in the os; (6) dotted line indicates circular incision of the endocervix; (7) same, showing sagittal section.

Routine examination of the cervix: A bimanual examination, both abdominovaginal and abdominorectovaginal, is made first, to rule out abnormalities of the uterus and adnexa.

The external cervix is carefully inspected through a lighted speculum or with ample light reflected from a head mirror. The endocervix is inspected by separating the lips of the cervix with long tissue forceps (or spreading the blades of the vaginal speculum), if the external os is large. A small, sterile sound is then passed the entire length of the cervical canal, after cleansing the cervix. This step will reveal an unsuspected stricture and friable tissue. If bleeding follows and no stricture or friable tissue is detected, 10-percent silver nitrate solution is applied to the canal and a re-examination made in from 5 to 7 days. Such bleeding is usually *not* of cancerous origin. The sound should be passed at the second examination, also.

A very small, sharp, narrow curet may be used, if bleeding occurs, and the tissue sent to the pathologist. If friable tissue is definitely found, it is better to remove a large biopsy specimen in the operating room.

Biopsy technic: Normal material and suspicious tissue must be removed together and immediately fixed in 10-percent formalin. If a block of tissue is cut, it is easy to fix and makes good slides. If a lesion involves the os, excise the entire mucosa to be studied, in one block (see Fig. 1).—K. MARTZLOFF, M.D., in *Am. J. Surg.*, Jan., 1941.

I have always enjoyed CLINICAL MEDICINE and consider it one of the most practicable publications available to the American physician.—L.G.B., M.D., N. J.

Angina Pectoris and the Endocrines

THE presence of the syndrome of angina pectoris should make one consider several conditions. When it occurs in women with a normal blood pressure, diabetes should be thought of immediately. It may occur with both hyper- and hypothyroidism, and in both instances, as in diabetes, is probably closely related to coronary artery disease.

With reference to thyrotoxicosis, one should not forget the possibility of an intrathoracic goiter. Hypothyroidism is quite rarely associated with angina pectoris, but anginal distress may appear under the influence of thyroid medication when the work of the heart is rapidly increased, accompanied by a rise in basal metabolism. In this connection it would be well to issue a warning as to the injudicious use of thyroid extract to combat obesity in middle-aged or elderly patients. One not infrequently observes the development of anginal pain in these cases, and this is certainly an indication to discontinue thyroid medication immediately.

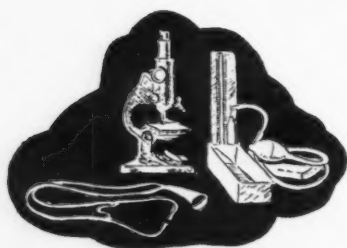
Anginal distress occurs characteristically with a paroxysmal rise in blood pressure due to the outpouring of epinephrin into the circulation from a benign tumor of the adrenal medulla or of the sympathetic chain, which is also referred to as pheochromocytoma. Another practical point is the inadvisability of using epinephrin in patients with a history of angina pectoris and cardiac infarction, for instance, in conjunction with local anesthesia. Grave accidents are likely to occur.

It is rather generally accepted that attacks of anginal pain provoked by effort, psychic tension, or cold are caused by anoxia of the heart muscle. It has been thought that this is closely related to discharges of epinephrin from the suprarenal glands, occurring physiologically under the conditions mentioned. Doctor Raab, of the University of Vermont, has claimed relief of angina pectoris through roentgen irradiation of the suprarenal glands. These attempts are promising and should be further studied.—HUGO ROESLER, M.D., in *Modern Concepts of Cardiovascular Disease*, Sept., 1941.

One-Eyed Drivers

THE advisability of allowing one-eyed persons to drive motor vehicles is open to serious question. Because the one-eyed driver is greatly handicapped, especially in regard to glare, field of vision, and judgment of distance, only a limited license should be issued to these drivers. Tests have shown that two eyes are more efficient than one in adapting to darkness after exposure to glare; and one-eyed drivers have particular difficulty in judging distance.

It has also been shown that two eyes can see an object that is exposed for a short period of time in about half the time that one eye can. Moreover, the one-eyed person's visual field is restricted, and he is unable to compensate for his blind spot as well as the person who has binocular vision. It is, therefore, important that a driver who becomes blind in one eye should learn to adapt himself to his changed visual reactions before being granted even a limited license to drive an automobile.—LEWIS H. CARRIS, Director Emeritus, Nat'l. Soc. for Prevention of Blindness.



Diagnostic Pointers

Nodular Goiters

● "Non-toxic" nodular goiters, even when accompanied by a normal basal metabolic rate, cause slow injury to the heart muscle over a period of from 10 to 15 years. All nodular goiters should be removed to prevent development of malignancy, the appearance of hyperthyroidism, and, cardiac injury.—W. C. KAPPERS, M.D., in *South. Med. J.*, May, 1941.

Urinary Disorders

● Genital disease may be simulated by ureteral or urethral stricture, contracture of the vesical orifice, chronic urethritis and trigonitis, and rarely by kidney ptosis. Pelvic or "neurotic" symptoms, dysmenorrhea, indigestion, flatulence, constipation, backache (lumbar and sacral), and a "feeling of weight" in the pelvis are frequently caused by bladder and ureteral disease.—P. T. BROWN, M.D., in *J.A.M.A.*, Jan. 18, 1941.

Phlebitis and Embolism

● One patient out of 3 with deep phlebitis of the leg will have a pulmonary infarct, and 1 out of 25 will have a fatal embolism, the incidence of fatal cases increasing with the age of the patient.—DRS. C. E. WELCH and H. H. FAXON, Boston, Mass., before A.M.A., June 5, 1941.

Shoulder Pain

● Calcification of the supraspinatus tendon, which occurs between the ages of 30 and 45, results in pain and limitation of motion at the shoulder, and is usually wrongly diagnosed as bursitis, arthritis, rheumatism, neuritis, or paralysis of the radial nerve. *Treatment:* (1) Give large doses of ammonium chloride (60 to 90 grains daily); (2) keep the shoulder at rest; (3) remove foci of infection; and (4) try heat and massage.—G. F. DICK, M.D., in *J.A.M.A.*, Mar. 22, 1941.

Nipple Discharge

● Discharge from the nipple is a good indication for simple removal of the breast, as carcinoma, papilloma, and chronic cystic mastitis are responsible for most cases. *One-third of women with nipple discharge have cancer, whether or not a mass is palpable, and whether or not there is blood in the discharge.*—P. R. HINCHEY, M.D., in *Ann. Surg.*, Mar., 1941.

The Babinski Sign

● The Babinski sign is one of the most valuable, if sought for properly.

Technic: It is elicited by *lightly* stroking the lateral aspect of the sole of the foot, while the leg is fully extended at the knee. If weak or doubtful, its intensity can be increased by placing the foot in warm water. The reflex may be equivocal, even in the presence of pyramidal tract disease, if the knee is flexed. A falsely positive test may be obtained, in a normal person, if the sole is scratched under the great toe.

Significance: It is always found in the presence of pyramidal tract disease (motor nerves to the extremities), except when the lesion is below the level of the third lumbar spine. It has no significance when found in children under one year of age.—ROBERT BING, M.D., in "Textbook of Nervous Diseases" (C. V. Mosby and Company, Publishers).

Abdominal Dressings

● Tight or large surgical dressings over the abdomen tend to decrease respiratory excursions, resulting in fatigue to the patient and interference with drainage of the lungs. The dressings should be as small as possible, and held in place with elastic adhesive plaster.—W. R. LOVELACE, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

Morphine for Chills

● The *intravenous* administration of morphine quickly controls severe chills.—LOUIS BISHOP, M.D., in *N. Y. S. J. Med.*, Apr. 15, 1941.

Vitamin B₁ Deficiency

● Fatigue, lassitude, and loss of interest in food appear early in vitamin B₁ deficiency, and are progressive. Depressed mental states, generalized weakness, dizziness, backache, muscle soreness, dyspnea, insomnia, nausea, vomiting, loss of weight, slight roughness of the skin, and atony of muscle also appear. Faint heart sounds, lowered blood pressure, and bradycardia when at rest, and tachycardia and sinus arrhythmia on exertion, are found. Neither anemia nor cheilosis appears, but capacity for muscular work is much diminished.

The early stage of vitamin B₁ deficiency resembles neurasthenia; the later stage resembles anorexia nervosa.—R. D. WILLIAMS, M.D., in *J.A.M.A.*, Feb. 22, 1941.

Thumbnail Therapeutics



Sputum Specimens

● In many cases of pulmonary tuberculosis, there is no spontaneous expectoration. Material for examination may be obtained by making up laryngeal swabs from a piece of wire with cotton wrapped around its end. This swab is passed down the larynx and the patient asked to cough.—E. NASSAU, M.D., in *Proc. Royal Soc. Med.*, Aug., 1941. (The same method may be used in obtaining sputum from patients with pneumonia—Ed.)

Withdrawing Blood

● The withdrawal of blood for transfusion is easier if a large needle (13 to 15 gage) and adequate-sized rubber tubing is used. Most difficulties are caused by using too-small needles and having the inside diameter of the tubing which leads to the blood bottle either too large or too small. Under such circumstances the blood frequently clots.—J. S. LUNDY, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

The Action of Cathartics

● Cascara sagrada causes an increase in the tone of the intestinal musculature, chiefly in the colon, with the least disturbance of motility of the bowel, and of feeding.

Food should not be given soon after the ingestion of magnesium sulphate, as it is not properly moved along the intestinal tract. Castor oil markedly increases peristalsis. Calomel acts chiefly on the upper part of the small bowel.—F. C. MANN, M.D., in *Am. J. Dig. Dis.*, Mar., 1941.

Operations on Infants

● As infants do not have a normal level of prothrombin, it is well to study the prothrombin content of the blood or to give vitamin K preoperatively, when operating on a newborn or young infant.—HUGH BUTT, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

Ringworm

● Minute vesicles on the sides of the fingers or toes are due to invasion by ringworm (trichophyton) from the toes or inguinal areas. *Treatment:* Twenty (20) grains (1.3 Gm.) of salicylic acid are dissolved in one ounce (32 cc.) of alcohol, and this lotion is applied repeatedly. A dram (4 cc.) of glycerin will prevent too-rapid evaporation; a minim or two of rose water will impart a pleasing odor.—GORDON WARD, M.D., in *Med. World (Lond.)* June 27, 1941.

Indications for Oxygen after Operations

● The presence of one or more of these signs and symptoms during the postoperative period should be considered an indication for oxygen mask therapy: (1) lowered blood pressure; (2) dyspnea; (3) cyanosis; (4) fast pulse; and (5) anemia. Oxygen should be used immediately after every severe operation.—A. BEHREND, M.D., in *Am. J. Surg.*, Aug., 1941.

Sulfanilamide in Wounds

● Sulfanilamide may be used in clean wounds, if it is autoclaved before use. The powder should be crushed, if it is lumpy after such sterilization, and spread thinly over the surface of the wound after hemostasis has been effected, and just before the wound is sutured. Powdered sulfanilamide slightly inhibits the primary healing of the wound.—J. A. KEY, M.D., in *J. Bone & Joint Surg.*, Oct., 1940.

Histaminase for Serum Sickness

● Histaminase is effective in preventing serum sickness in the great majority of cases. Five or six tablets or capsules are given daily for a period of 8 days.

Treatment: Six to eight tablets or capsules, each capable of detoxicating 5 units of histamine hydrochloride, are given daily until all symptoms have disappeared.—L. E. PRICKMAN, M.D., in *Proc. Staff Meet. Mayo Clin.*, Jan. 15, 1941.

Varicose Veins

● Thiamin (vitamin B₁) chloride therapy causes a reduction in the size of enlarged veins. Intensive therapy may cure varicocele, hemorrhoids, and varicose veins.—W. J. McCORMICK, M.D., in *Med. Rec.*, June 4, 1941.

Thiamine in Pregnancy and the Puerperium

● Thiamine (vitamin B₁) is an effective agent for overcoming primary uterine inertia. It also tones up the relaxed smooth muscle of the postpartum bladder and urethra. Cardiovascular disturbances arising in toxemia of pregnancy respond to the parenteral use of thiamine.—J. E. AYRE, M.D., in *Canad. Med. Assoc. J.*, June, 1941.



THE DOCTOR'S STUDY

*Those who have good books, and read with the mind
and heart, can defy fate to inflict on
them a single grief, or deprive
them of a single joy.*
—Correct English

General Anesthesia MacIntosh and Pratt

ESSENTIALS OF GENERAL ANESTHESIA, With Special Reference to Dentistry. By R. R. MACINTOSH, M.A., M.D., F.R.C.S., D.A., Nuffield Professor of Anesthetics, University of Oxford; Anesthetist to the Radcliffe Infirmary, Oxford, et cetera, and FREDA B. PRATT, M.A., D.A., First Assistant, Nuffield Department of Anesthetics, University of Oxford; Anesthetist to the Oxford Eye Hospital, et cetera. Oxford, England: Blackwell Scientific Publications, 1941. Price, \$6.50.

THE authors discuss the technics involved in giving general anesthetics. They are especially interested in anesthesia for operations on the teeth and in the mouth and give many practical points in this field. They condemn the use of flat tongue-holding forceps as being injurious to the tongue, and recommend the use of a tongue forceps which resembles exactly the usual towel clip, applied to the superior surface of the tongue. Sponges are recommended for packing off the throat during operations in the mouth and extractions.

Their illustrations of the performance of an emergency tracheotomy are noteworthy. Anyone who has hastened for the first time to cut down on the trachea of a dying child, knows the feeling of hopelessness at trying to remember all the usual intricate operative steps. They emphasize that, if only one person is at hand besides the operator, the assistant's most important task is to hold the patient's head perfectly still and to fix it in a vertical position, with the head bent back, to bring the trachea closer to the surface.

X-rays in Chronic Arthritis Goldhamer

X-RAY TREATMENT OF CHRONIC ARTHRITIS. By KARL GOLDHAMER, M.D., Formerly Roentgenologist, University of Vienna; Associate Roentgenologist, St. Mary's Hospital of Quincy, Ill., etc., with a Foreword by HAROLD SWANBERG, B.S., M.D., F.A.C.P., Radiologist, St. Mary's and Blessing Hospitals, Quincy, Ill., etc. Radiologic Review Publishing Company, 1941. Price, \$2.00.

THIS book discusses arthritis as viewed by a roentgenologist. The diagnosis is considered first, then the types that may be benefited by radiation, the technic, and results. This report covers 15 years of x-ray treatment of arthritis, in this country and Europe, and represents work in a field hitherto largely neglected.

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

Nervous Pathways Rasmussen

THE PRINCIPAL NERVOUS PATHWAYS: Neurologic Charts and Schemas, with Explanatory Notes. By ANDREW THEODORE RASMUSSEN, PH.D., Professor of Neurology, Department of Anatomy, University of Minnesota Medical School, Minneapolis. Second Edition. New York: The MacMillan Company, 1941. Price, \$2.50.

THIS book consists of diagrams of the chief pathways in the central nervous system; tabulations, in schematic form, of the course of conduction; and explanatory notes. The diagrams, with legends, seem overcrowded and would be much more helpful if made in the form of large charts. The neuro-anatomy of the spinal cord is well presented, but there is little material on peripheral nerves and not much more on the cerebral functions.

This inexpensive volume is handy for quick reference to the diagrams.

Differential Diagnosis Naegeli

DIFFERENTIAL DIAGNOSIS IN INTERNAL MEDICINE. By Prof. Dr. Med. O. Naegeli, Late Director of the University Clinic of Zurich, Switzerland. Authorized English Translation by S. B. SPILBERG, M.D., Head, Department of Medicine, Mount Sinai Hospital, Milwaukee, Wisconsin. Chicago, Ill.: S. B. DeBour, Publishers, 1941. Price, \$10.00.

THIS book contains much valuable information not found in texts on internal medicine published in this country. For example, a number of pages are devoted to the differential diagnosis between simple or catarrhal jaundice and mechanical or inflammatory affections of the biliary tract. This problem is lightly skipped over by most texts, yet the physician is faced with responsibility for making a diagnosis and deciding for or against surgical intervention, which should be performed as early as possible if a mechanical obstruction exists.

Case histories, a number having sketches to indicate physical signs, illustrate points in diagnosis. This is one feature that could well be adopted by American texts, which often are impersonal, aloof, and needlessly dogmatic.

The author is especially interested in blood morphologic changes in various diseases. Many pages are devoted to diseases of the liver and spleen. The whole work speaks with the authority of an able, experienced clinician.